



CENSUS OF INDIA 1961

VOLUME I

INDIA

PART IX

CENSUS ATLAS

Dr. (Miss) P. Sen Gupta Ph. D. (London)

Map Officer

General Direction

A. Mitra

OF THE INDIAN CIVIL SERVICE

Registrar General & Ex-Officio Census Commissioner for India

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H O M A G E

Where is death's sting ? Where, grave, thy victory ?

We grieve that our colleague Dr. Miss Phularani Sengupta did not live to publish this Atlas over which scholars the world over will rejoice.

The Atlas marks the dramatic climax of a life wholly dedicated to the cause of geography. Early in her life as a teacher, Miss Sengupta's first published work, significantly enough, was a regional study of Almora. Her interest in regional studies impelled her to a thorough study of a regional crop—jute. Between 1955 and 1959 she published three important papers on the cultivation of jute, which reached their high watermark in her large book, *The Indian Jute Belt*, which came out in 1959. Studies on the cultivation of agricultural commodities must have put her on the trail of industrial regions, for she published an important paper on 'Some Aspects of Industrial Development in the Hooghly Region' in March 1958, and another on the 'Fertilizer Industry and its impact upon Agricultural Production in India' in 1963. Around 1960 her heart appears to have been set on a comprehensive study of resource and economic regions, for about this time she moved to Delhi and began to work for the National Council of Applied Economic Research. She worked swiftly and intensely as was her wont, and, apart from two important papers, 'A Note on Regional Planning' and 'Regions for Planning', both published in 1962, she helped the NCAER complete and bring out the Techno-Economical Surveys of Assam (1962) and West Bengal (1963) and, for its time, the unique *Economic Atlas of Madras State* (1963).

The success of the census count in 1961 and the proven satisfactoriness of the data it collected, strengthened the Census Commission's plans to embark upon the most ambitious Census Atlas project ever attempted. For each State there was to be an Atlas consisting more or less of 170 maps (the notable exception being Punjab which eventually produced an Atlas of 275 maps), the crown of the edifice to be provided by a similar Atlas for the Union as a whole. The contents of the uniform Atlas Series were carefully worked out in the first half of 1962 when Government was moved to find out a suitable person to undertake the project at the Centre and supervise it in the States. The Census Commission cannot cease to be grateful that the Union Public Service Commission selected Dr. Sengupta for this task. Dr. Sengupta formally joined on 29 November 1962 but she had started to work for the Census Commission long before this date. In fact, the contents of the Atlas Series were finally hammered into shape, with her and Dr. Schwartzberg's help, by the Registrar General before she joined. She had also in the meantime discussed her plan of work with the Registrar General and drawn up a timetable through 1966.

The Census Commission of India is an odd kind of institution. Over the decades since 1861 it has turned administrators into scholars and scholars into administrators. It was now Dr. Sengupta's turn to grow into an administrator. Between the 26th of December 1962 and the 1st of March 1963 she took training classes of geographers, cartographers and draughtsmen of one State and Union Territory after another, of an average duration of three full days each, while designing drawing boards, tables, lamps, chairs and other furnishings for each State's map office and placing orders for instruments, pens, inks, base maps and lead types. Throughout 1962 and the first half of 1963, apart from equipping her own office at Delhi and training and working with her own staff, she found time to visit each State and Union Territory office and hold a second series of in-service training classes.

The Registrar General's Office repaid her in turn with opportunities she had never received before, of work at international level. In 1963 she was permitted to accept an invitation to attend the Twentieth International Geographical Congress at London to be held between 12 and 18 July 1964, for presentation at which she wrote two papers, both on the subject of Regional Planning. The first was called 'Technique of Regional Planning and Its Application to North East India' and the second 'Planning Regions for Resource Development in India'. Her participation brought instant international acclaim. She was elected Member of the Six-Man Commission on Geography and Cartography of World Population of the International Geographical Union from 1964 to 1968, the other members being from Japan, Poland, the Soviet Union, the United Kingdom and the United States. As Member of this Commission, Dr. Sengupta attended the first conference of IGU on Geography and Cartography of World Population from the 30th of August through the 10th of September, 1965. Pressure of work at home prevented her from attending the Latin American Regional Congress of the IGU at Mexico in the beginning of August 1966, but she made up for it by presenting *in absentia* her paper on the 'Geographical Approach to Planning for Resource Development in Underdeveloped Countries'.

Thanks to the collaboration established since 1964 between the Office of the Registrar General, India, and the Institutes of Geography and Ethnography of the Academy of Sciences, USSR, Dr. Sengupta was enabled to spend three months and a half in USSR in the summer of 1967 (20 April—4 August 1967) as an Exchange Scholar under the Indo-Soviet Cultural Exchange Programme. This visit proved of great benefit and inspiration, Dr. Sengupta having been given every opportunity of studying and conferring not only with scholars at Moscow and other Universities, but of travelling very extensively in Siberia and the Asian Republics. Shortly after her return from USSR, Dr. Sengupta visited Poland at the invitation of Polish Geographers between the 9th and 14th of September 1967, to be followed by her attendance at the third session of IGU Commission of Geography and Cartography at Pennsylvania, USA, from the 17th till the 24th of September. It was at Pennsylvania that she presented one of her major works in the paper, 'Population and Resource Development in India'. But the year 1967 was fruitful in other ways. On return to India she presented a paper on 'Methodology of Delineating Planning Regions of Different Orders' at the Seminar School in Applied Geography of Banaras Hindu University held between the 1st and 10th of November, the same year. Earlier on the selfsame year she had presented a paper on 'Regional Differences and Characteristics in the Use of Building Materials for House Construction' at the second and third Training Courses of the National Building Organisation while contributing still another paper on 'Characteristics of Internal Migration in India' to the ECAFE Working Group on Problems of Internal Migration and Urbanization held at Bangkok in May-June 1967.

But these are no more than the bare bones of a lifetime of work. How deep was her involvement in the most urgent problems of her country as they appeared to her from time to time, came to me all in a flash one late autumn afternoon in 1969 at Uskye on the outskirts of Moscow, when Professor Pokshishevskiy, looking out at the darkening wood with the rain beating softly on the window panes, casually went over them with me : the problem of a small mountainous region to start with in early youth, then jute as a crop over the most populous tract of India, on to the geographical aspects of industrialization, proceeding thereafter in logical sequence to the resources and economic development of states within their political boundaries, on again to the problem of dissolving these artificial boundaries in terms of resource regions and subregions of India considered as an integral whole, and finally right out to the wide estuary of population geography where these different streams merged and swelled the horizon of her research.

I have described in the Preface to *Economic Regionalisation of India : Problems and Approaches* (Census of India 1961 Monograph No. 8) how the idea of Indo-USSR collaboration in the field of geographical research originated in discussions with Soviet Scholars at Belgrade and Moscow in 1965 and 1966. The decision to hold the IGU Congress of 1968 in New Delhi gave shape to this idea which was further strengthened by the visit of Dr. Galina Sdasyuk to India and of Dr. Sengupta to USSR in 1967. Between September 1967 and August 1968 both scholars worked very hard on the monograph which Professor V.V. Pokshishevskiy directed and I had the privilege of editing and to which I added a Preface and Appendices at their insistence. This book was presented at the Plenary Session of the Twenty-first International Geographical Congress (1—13 December 1968) devoted to Planning and Geography of India, which was inaugurated by Professor D.R. Gadgil, Deputy Chairman of the Planning Commission. Academician I.P. Gerassimov, who was the second speaker to take the floor at the ceremony, paid high tribute to Dr. Sengupta and presented the Monograph to the acclamation of the distinguished international assembly. The Delhi Session of the IGU had other reasons to be particularly appreciative of Dr. Sengupta's talent and dedication, for, it was upon her that the complex task of preparing for the Twenty-first Congress had mainly fallen, from the organisation of the Reception Committee at one end to the soliciting at the other of scientific papers for a number of sessions, preparing and ordering of the business sessions and coordinating with distinguished participants from all over the world. It was she who had designed, almost single-handed, and worked out to the last detail, the IGU Symposium on Population Geography held at Delhi on 27—30 November 1968, at which a specimen copy of the 1961 Census Atlas of India in progress was presented and several unique maps were displayed. But Dr. Sengupta was there no more to receive the acclaim that scholars from all over the world had foregathered to give her. Dr. Sengupta had died of cancer barely a fortnight before, on 13 November 1968.

I had known of the fell disease about two years before. I knew that she knew and that all she wanted was to drop dead on her job. All that one could do was to accept the constitution of silence, while she went on battling with ebbing life, in constant but uncomplaining pain, with a cheerful zest for life, with the impatience of a frantic race to complete a lifetime's work that hurled defiance at death. Never sparing herself unto the last, she never let fall a word of self-pity, never faltered, nor gave an excuse. And unto the last she kept open house, grew the best chrysanthemums in pots, and was ever the excellent host. A week before she died she neatly laid out the dresses and matching ornaments she would wear on each day of the IGU Congress.

The Indian Census is in the habit of taking cruel tolls in each decade. Not a census has passed since the series was started in 1871 without one or more persons dying at their post. The 1961 Census too brought us irreparable loss in the death of two staunch friends and valiant colleagues, both women : Ruth Reeves, Honorary Adviser to the Registrar General, India, in December 1966, and Phularani Sengupta, Map Officer to the Registrar General, in November 1968. To them we pay homage.

*Whatever we inherit from the fortunate
We have taken from the defeated
What they had to leave us—a symbol !
A symbol perfected in death.*

* * * *

The State Atlases are now almost all published in uniform Demy Quarto size. The number of maps vary within small limits from State to State depending upon how strongly a State colleague felt that a particular subject or subjects deserved maps in addition to the standard list. The format of the Union Atlas was enlarged at the suggestion of Dr. Sengupta and although I hesitated at first I was happy to welcome the new format unreservedly when we saw the difference that it made to presentation and reading. The Analytical Notes were almost all written by Dr. Sengupta.

New Delhi
2 February 1970.

Asok Mitra
Registrar General India
1958—1968

FOREWORD

Few People Realise, much less appreciate, that apart from the Survey of India and the Geological Survey, the Census of India had been perhaps the largest single producer of maps of the Indian subcontinent. Intimate collaboration between geographer and demographer began quite early in the modern era, almost two centuries before the first experiments in a permanent decennial Census were made in the 1850's. For example, the population estimates of Fort St. George, Madras, made in 1639 and 1648, and of Masulipatnam and Bombay by Dr. John Fryer around 1672-3 were supported by cartographic documents of no mean order. The first detailed modern maps, the results of Major James Rennell's stupendous Survey of 1767-74, were published in 1778-1780 and Henry Taylor Colebrooke, almost our first systematic demographer, was quick to make good use of them by making estimates of population in the East India Company's Possessions in the 1780's. Upjohn's map of Calcutta City, drawn in 1792-3, reprinted in the Census Report of Calcutta for 1951, gives an idea of the standards of cartographic excellence reached at that period. In the first decade of the nineteenth century, Francis Buchanan Hamilton improved upon Colebrooke's method in which he was undoubtedly helped by the improved maps prepared for the areas he surveyed.

It is possible that the Great Revenue Survey, begun in the middle of the last century, offered the best guarantee of the success of decennial population Censuses proposed shortly before the Mutiny of 1857. In the experimental censuses organised between 1865 and 1872 the Survey of India, the Provincial Surveys and Census of India struck an informal but stable partnership which has been fascinatingly described by R.H. Phillimore in his monumental four-volume work on the *Historical Records of the Survey of India*. This partnership continues to this day. On the eve of each census, the Census of India proceeds by making use of (a) the cadastral surveys prepared by the Provincial (now State) Surveys and (b) the topographical surveys of the Survey of India. In the course of its decennial operation, the Census of India begins by revising and bringing up-to-date the minute jurisdictional changes made during the decade. Next, and equally important, it revises the lists of inhabited and uninhabited villages and of towns and cities. These are placed at the disposal of the Survey of India. Thirdly, at each decade the Census of India itself produces maps of its own which serve to strengthen the study of geography at official and academic levels. These are both numerous and of great range and variety. What is more, they are often unsurpassed for their wealth of authentic regional detail. For proof, if proof were needed, one has only to turn to the geographical maps published in the 1872 Census Reports of North-West Provinces, Cochin, Bengal and the very excellent volume of maps of different Collectorates of the Bombay Presidency, published as Part IV of the 1872 Census Report of Bombay, or the fine taluk maps of Mysore State published in the Census Report of 1891. The high watermark of a skilful fusion of topographical and thematic maps was reached in maps published in the encyclopaedic Linguistic Survey of India and the State Census Reports of 1931 and the special All India Ethnographic Appendix published in 1933. In fact, the particular genius of the Census of India seems to lie as much in the high quality of its themato-topographic maps as in the pure thematic maps so essential for Census analysis and presentation.

The restricted programme in 1941 on account of World War II temporarily restrained the cartographic activities of the Census of India, although several excellent contributions were made. One of the major contributions of the 1951 Census was the excellence of detail achieved in the great bulk of taluk/tehsil maps published in the District Handbooks.

The Census of India has been a discontinuous affair up to 1961. The Census Commissioner for India in 1941 compared it to the mythical phoenix. The Census starts every time with a very limited assignment, but ends up, thanks to the vistas that open up with the progress of the work and the hunger they stimulate, by becoming the most fruitful single source of information about the country.

The seeds of the 1961 Census Atlas Project were unobtrusively sown in para 42 of the Registrar General's first 1961 Census Circular of March 1959 to State Census Superintendents as follows :

It will be very useful to have a map for every village and ward of a town showing the broad layout of the village and the house numbers shown therein. The map need not be drawn to scale but a map large enough to show the house numbers would be sufficient. A map of this kind, if prepared, will also help the maintenance of house numbers.

This suggestion was wholly accepted in the First Conference of State Census Superintendents held in September 1959, which authorised State Census Offices "to appoint one or two good draughtsmen for the preparation of experimental maps, charts, graphs and histograms for their own use". Note was taken of 'the serious but avoidable blemish' left in some census years on account of 'the lack of good maps and charts'.

That the seeds did not fall on stony ground was evident from the enthusiasm with which the States welcomed the Registrar General's next circular laying down the details to be incorporated in the village maps. It caught their imagination so well that many State Census Superintendents added of their own accord to the details stipulated by the Registrar General's Office. A zest was thus created which whetted the appetite it fed.

By August 1960 several State Census Superintendents had set up their own Map Sections. The experience and confidence gained in the process encouraged a general desire at the Second Census Conference in August 1960 to go in for a much enlarged programme of map production than had been originally proposed. It was no longer a question of selling an idea but of feeding the organisation with a project that would be worth working for.

The satisfactory progress of the sorting and tabulation programme placed at the disposal of my colleagues an exciting world of possibilities. On the eve of the Third Census Conference in February 1962 the map project had passed its tentative stage. All Census Superintendents were now thinking of producing enough maps to fill a sizable atlas.

The Registrar General's circular of September 1961 had already anticipated the general desire by proposing that Part IX of the State Census Series should take the form of an atlas. This was followed up by two circulars in November 1961 giving details of the contents of the projected Atlases and the method by which each map was to be produced. This was in turn followed up some time later by a third circular in September 1962 suggesting the levels to which analysis of data should be carried out for the purpose of each map.

Inquiries had in the meantime been made of the Survey of India and the National Atlas Organisation on the extent to which either would be prepared to share the task with the Census of India. The Director of the National Atlas Organisation was good enough to undertake the preparation on 1 : 1M scale of population maps for 1961. Similar maps containing the 1951 data had meanwhile been completed which the Government published at the Registrar General's request.

A chance meeting in the middle of July 1959 with Dr. Joseph E. Schwartzberg of the University of Wisconsin proved of great profit to the 1961 project. I am under a personal debt to Dr. Schwartzberg for his very thoughtful and detailed memorandum which he was good enough to send me in September 1959 on the kind of maps that should be incorporated in census volumes. He was even more helpful when I gave him the outline of a full Atlas Project. The Project owes much to the readiness with which he placed himself at my disposal to the detriment no doubt of his own work in November 1962, when he and I, with Miss Sengupta joining in toward the end, went over every item and worked out many improvements. The contents of this Atlas and the standard contents of the State Atlases appearing at the end of this foreword will explain the scope and purpose of the project and its claims to uniqueness.

The Government of India had meanwhile accepted the Census Atlas proposals and sanctioned the staff and funds.

Dr. Miss P. Sengupta, Map Officer to the Registrar General, joined at the end of November 1962 and immediately applied herself to several tasks at once. She instilled purpose and dedication into her rapidly expanding staff and in the course of a strenuous three-month seminar trained and equipped the staff from the State Census Offices. She followed it up with extensive tours to all state Census offices and helped them to achieve uniformity of quality and presentation.

The 1961 Census Atlas Project was mainly in the hands of a young, gifted and trained staff in every State. Their greatest contribution may yet prove to be the District and Tahsil maps which have been brought up-to-date with the latest administrative and demographic detail. No less significant will be the village and town maps which have opened up new vistas for the study of comparative rural and urban geography.

I would like to close this short account by quoting an extract from my colleague, Sri M. Ahmed of Orissa, which, if anything is an understatement of what many of my colleagues cheerfully accepted in order to accomplish a task that was no part of their original assignment and yet on which they poured the ardour of pioneers.

Things however did not wait. Manpower was drawn first from the street,.....for not a single qualified draughtsman was available on deputation from the State Government in spite of requisitions and personal contact. Among the equipment to start with were some locally purchased drawing and survey instruments and a few cheap items of furniture, accommodated in the temporary barrack with asbestos-sheeted roof, lighted with temporary electric fittings. There was, however, a sufficiency of light points, not only from the ceiling but also under glasstopped tables meant for tracing work. With these lights burning over the head and under the tables during working hours at day-time, and with inadequate provision of fans, the hot roof of asbestos sheets made matters pretty unbearable particularly during summer months. But the atmosphere was already surcharged with enthusiasm and there was the will and earnestness to produce something new. The young recruits magnificently responded to an appeal to earn distinction for themselves by building up things which did not exist.

New Delhi
12 June 1964.

Asok Mitra
Registrar General India

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PREFACE AND ACKNOWLEDGEMENTS

The Census Commission of India is privileged to bring out this Census Atlas, perhaps the first of its kind in any part of the world. Humble though our effort has been, I have every hope that the world of scholarship will welcome this unique addition to the Census literature. Let me at the outset express the gratitude of the Census Organisation to Shri Asok Mitra my distinguished predecessor and the architect of the 1961 Census of India, who conceived and guided this Atlas project from the inception till it reached its fruition. There is not a single detail to which he had not given his personal attention, be it the recruitment and training of the personnel, the scope and contents of the Atlas, the methodology and technique, the analysis and presentation, the design and printing, in fact, everything. The present Atlas will undoubtedly reflect the breadth of vision of this illustrious administrator-scholar. The execution of this project was entrusted to the late Dr. (Miss) P. Sen Gupta, who was appointed as the Map Officer in the Registrar General's office from 29th November, 1962. She gave every ounce of her energy to this project and toiled for it as her life's aim. It is an irony of fate that the cruel hands of death snatched her away on 13th November 1968 on the eve of the meeting of the International Geographical Congress at Delhi, which greatly applauded this project. The dedication, the indefatigable energy and the sense of perfection she showed in her work is clearly evident from this Atlas itself. There cannot be a greater tribute to her than this very Atlas.

The 1961 Census Atlas Project covers the Union Census Atlas (present volume) and State Atlases including those of Union Territories. Many of the State Atlases have since been published. In addition, Bihar, Orissa and Rajasthan have published separately Administrative Atlases. The Union Atlas contains 191 maps dealing with orientation, physical conditions, demographic structure and trends, economic aspects, socio-economic and cultural aspects and demographic regions. The base map for this Atlas was compiled on 1:5 M showing districts, main drainage systems and other physiographical details such as contours, coast and fathom lines mainly on the basis of Survey of India maps published in various scales and also on the basis of National Atlas of India. The zonal maps were prepared on various scales ranging between 1:2 M and 1:5 M on the basis of State and Union Territories maps issued by various Government agencies. All these maps were got vetted by the Survey of India.

While most of the maps in this Atlas depict the picture of the country as revealed through the 1961 Census data, with a view to making the Atlas more meaningful, data outside the Census have also been obtained and utilized freely. In depicting physiography, geology, minerals, soils and forests, information has been derived from maps published by Survey of India, National Atlas of India, Geological Survey of India, Forest Research Institute, Soil Survey, All India Soil and Land Use Survey and the Indian Council of Agricultural Research. Climatic maps are solely based on published as well as unpublished statistics supplied by the Meteorological Department of India. For agricultural maps, data have been obtained from the Ministry of Food and Agriculture and Community Development and Directorate of Economics and Statistics. Data for maps on electricity were supplied by the Central Water and Power Commission, while those for the Transport and Health maps were supplied by the respective Ministries.

District has generally been taken as the unit for depicting the data in the maps, except in some cases where State as a whole had to be used as the unit. Dot method has been adopted in distributional maps. In general choropleth and isopleth techniques have been adopted and wherever cross-classifications were desired to be depicted, pie or bar graph or use of colour has been resorted to. Towns and cities have been represented by spheres and proportional circles. Arrow diagrams as well as symbolic representations in mapping, wherever considered desirable, have been adopted.

The Atlas seeks to represent, at a glance, the demographic, socio-economic and cultural situation of the country. An explanatory note has been added to each map to help the reader in analysing the map. It is hoped that this Atlas will add to our knowledge in population geography and serve as a valuable aid to administrators, planners, scholars and others.

We are aware of the limitations of this maiden project. Despite all the precautions taken in the preparation and scrutiny of these maps, an unfortunate mistake has crept in Map No. 53: 'Chronological distribution of towns which lost urban status in any of the years 1901—61'. Location of twenty towns in this map has been wrongly shown. Of these, 11 are in Uttar Pradesh, 5 in Andhra Pradesh, 2 in Mysore and 1 each in Punjab and Rajasthan. These should be deleted, while 25 towns should be added for various years in which they lost urban status. Of these 11 relate to 1921, 5 to 1931 and 4 to 1951 and they should appear in Uttar Pradesh alone. Five towns are to be shown in Mysore State, 2 each for 1911 and 1941 and 1 for 1951. Two towns are to be shown in Andhra Pradesh and one in Punjab for 1951 and 4 in Kerala for 1961. Change in colour scheme was also required due to lost urban status for the following towns : Deshing (1951), Kharda (1961), Vamnori (1961) and Mahim (1961) in Maharashtra State; Machhiwara (1961) in Punjab and Rampur and Katra (1961) in Uttar Pradesh. We very much regret these mistakes. These mistakes were detected at a very late stage and corrections would have meant serious delay in the publication of the Atlas.

I have the undeserved honour of having the Atlas published during the period when I am in charge of this office. As Superintendent of Census Operations of the State of Andhra Pradesh at the 1961 Census, it was given to me to produce the Census Atlas of that State under the scheme of the 1961 Census Atlas Project. I did realise even then how much effort goes into bringing out a publication of this sort, calling for the greatest cooperative endeavour in which the Geographer, the Draughtsman, the Artist, the Statistician, the Economist, the Printer, the Administrator and many more are involved. The scope and canvas of the India Atlas was much larger than the State Atlases. There were so many people who had to put their shoulder to the wheel that it was impossible to make mention of every one who had contributed their effort and energy to the production of this Atlas. The late Dr. (Miss) Sen Gupta had a team of dedicated workers to help her and they were all infused with the same spirit of dedication and enthusiasm that the leader herself had for the job. Every one of them can share the pride of being partners in the production of this Atlas.

Even before the demise of Dr. Sen Gupta, Shri K.K. Chakravorty, Central Tabulation Officer, had taken over considerable responsibility for printing this volume. After Miss Sen Gupta passed away, Shri Chakravorty assumed almost complete charge of the balance of work of the Atlas project. He saw through the final stages of preparation and scrutiny of the maps. He had to go through and finalise almost every one of the analytical and explanatory notes to the maps. I wish to specially thank him for his relentless effort which had greatly helped in bringing out this volume. I wish to also make mention of Shri G.P. Sharma and Shri A.K. Sen, the Research Officers of the Map Unit, whose contribution was substantial.

It is difficult to individually acknowledge here the most valuable contribution made by each member of the team of excellent workers of the Map Unit which has made the production of this Atlas possible. The team was made up of statistical staff which computed and provided the data in a form suitable for cartographic presentation; the geographers, cartographers and artists who did such a fine job in the preparation of maps, charts and diagrams; the Hand Press Operators whose contribution was no less significant. It can not be said that each individual attended to a single item of work. Most members of the staff developed themselves into a versatile lot and looked after every aspect of the preparation of this Atlas including the interpretation of the maps and supervision of printing. The ultimate quality of the maps reflected the great attention to detail given by every member of this dedicated team. The cartographic staff was made up of Sarvashri K. Hari, P.B. Mohod, D.K. Mittra, N.K. Varma, N.K. De, Smt. Minati Ghosh, Late Smt. S. Babu, Sarvashri S.D. Tyagi, N.C. Sen Gupta, Dr. N.D. Bhattacharya, R.R. Tripathi, R.P. Singh, M.P. Dabral, D.A. Pawar, V.C. Kapoor, P.T. Deshpande, N.K. Roy, S.K. Mukherjee, R.R. Chakraborty, V.B. Chutani, M.N. Ram Mohan, R.P. Bajaj, P.K. Patnaik, A.R. Biswas, Swetamber Dutt, Hari Bhagat, Vishnu Dyal and the Statistical staff made up of Sarvashri Y.S. Rao, R.C. Kathuria, P.C. Pande, Kailash Chander, Loknath Singh, V.P. Vasudeva, C.P. Vasudeva, S.S. Kashyap, P.N. Baweja, R.P. Khurana, J.P. Khosla, N.S. Soam, G.C. Pant, G.S. Chadha, I.P. Singh, Km. Reba Barua, Smt. S. Gilani, Km. S.L. Gogia, Sarvashri G.C. Srivastava, S.C. Saxena, P.D. Likhyan and Harcharan Singh. I wish to place on record my appreciation of the excellent work turned out by each of them.

The Census Commission has been free in accepting advice and ideas from several who have had experience and expertise in this particular field. Mention may be made of Dr. Joseph E. Schwartzberg, presently at the University of Minnesota, U.S.A., Dr. S.P. Chatterjee, Director, National Atlas Organisation, Brigadier Gambhir Singh and Brigadier Paintal, Surveyor Generals of India and Dr. G.S. Gosal, Head of the Department of Geography, Punjab University, Chandigarh, who most readily extended their advice and technical guidance. My grateful thanks to them.

As already indicated we drew on data outside the census to a considerable extent for preparing several meaningful maps in this Atlas. I am indebted to organisations such as the Central Water and Power Commission, Geological Survey of India, Indian Bureau of Mines, Indian Meteorological Department, Indian Agricultural Research Institute, All India Soil Land Use Survey, Ministry of Defence, Ministry of External Affairs, Ministry of Food and Ariculture and Community Development, Ministry of Transport, Ministry of Railways, National Atlas Organisation, National Council of Applied Economic Research, Planning Commission, Survey of India, Forest Research Institute, Indian Council of Agricultural Research, Central Statistical Organisation, Ministry of Education and Youth Services, Ministry of Labour, University Grants Commission, Director Map Publications, Dehra Dun and State Directorates of Economics and Statistics, all of which most readily helped this office with requisite information. Our grateful thanks are also due to Dr. S.P. Ray Chaudhuri, the then Senior Specialist on Land Resources, Planning Commission for his valuable guidance in preparing the soil map. The Silvicultural Section of the Forest Research Institute of India very kindly undertook the scrutiny of our forest map and we are indebted to them.

My colleagues in the State Census offices, in no small measure contributed to the success of this volume by supplying the data as and when required in preparation of this Atlas. While each one of them prepared a monumental Atlas of his own for his State, they fully helped in the successful completion of the All India Atlas as well. I am grateful to all of them. Shri D. Natarajan, a doyen of the Indian Census, who worked as Deputy Registrar General throughout the 1961 Census operations, as also Shri K.D. Ballal, who had worked as the Central Tabulation Officer at the 1961 Census and later succeeded Shri Natarajan, as Deputy Registrar General, were closely associated with the Atlas Project. In setting up the Map Unit in this office, in providing the data and equipment for mapping, in arranging for printing of the maps and in solving several problems associated with the Atlas, they played a signal role. I wish to place on record their valuable services to this Project.

The Printing of this Atlas is no ordinary job. The excellence of the maps finally printed goes to the credit of Messers Capital Offset Printers, Delhi, who gave their special attention to every detail and have been most cooperative in attending to all the corrections this office had to suggest from time to time.

New Delhi
10 February 1970.

A. Chandra Sekhar
Registrar General India

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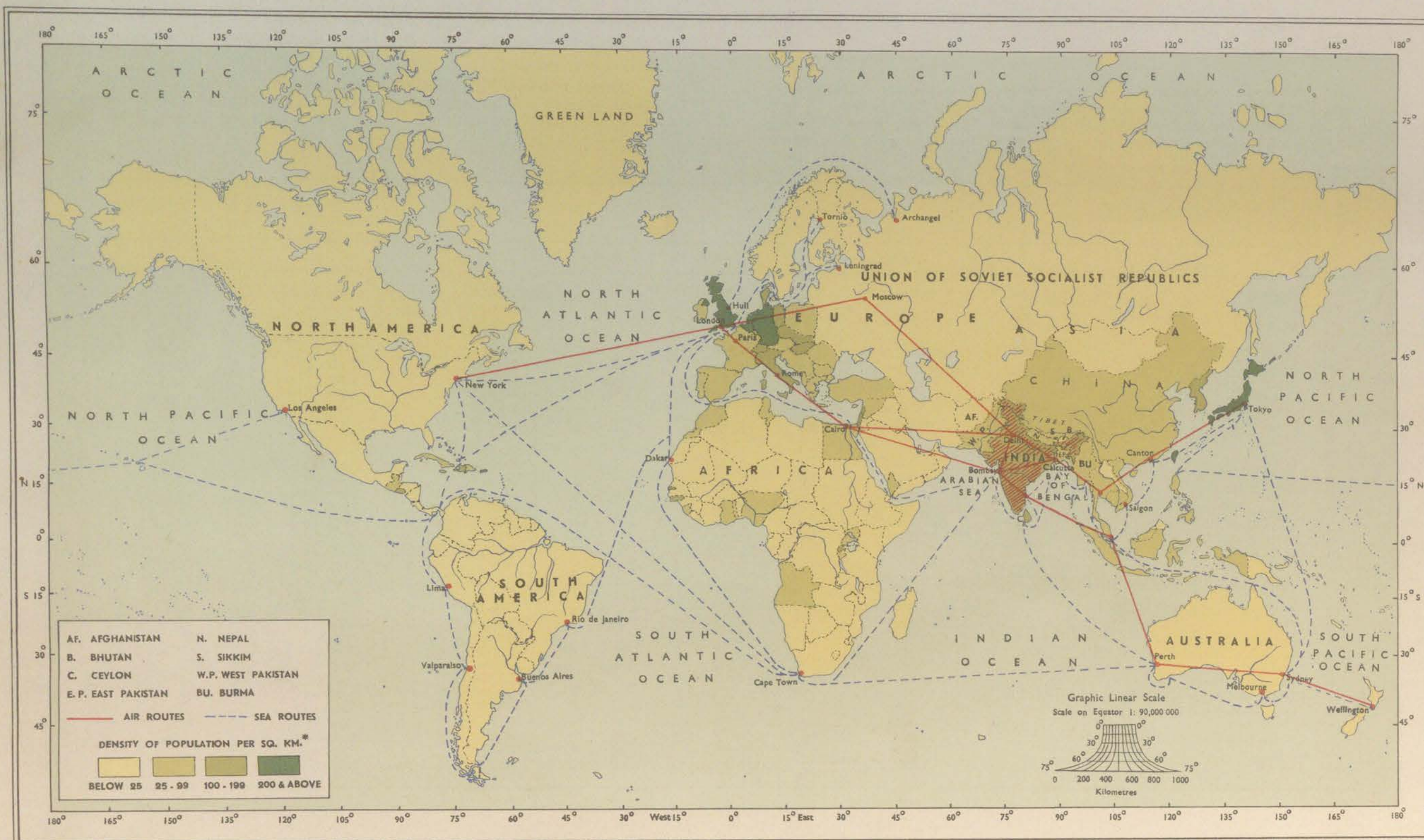
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160	Male Literacy in Rural Areas, 1961	354—355	184	Distribution of Households by Predominant Wall and Roof Materials in Rural Areas, 1961	404—405
161	Male Literacy in Urban Areas, 1961 (Percentage of Male Literates to Total Male Population excluding Age-group 0—4 in Urban Areas, 1961)	356—357	185	Distribution of Households by Predominant Wall and Roof Materials in Urban Areas, 1961	406—407
162	Female Literacy in Rural Areas, 1961 (Percentage of Female Literates to Total Female Population excluding Age-group 0—4 in Rural Areas, 1961)	358—359	Health		
163	Female Literacy in Urban Areas, 1961 (Percentage of Female Literates to Total Female Population excluding Age-group 0—4 in Urban Areas, 1961)	360—361	186	Number of Medical Institutes Per 10,000 of Census Houses, 1961	410—411
164	Excess of Literates in Rural Areas Per 1,000 of Population in Age-group 5—14 over Literates Per 1,000 of Population in Age-group 15—34, 1961	362—363	187	Number of Hospital Beds Per 100,000 of Population, 1961	412—413
165	Excess of Literates in Urban Areas Per 1,000 of Population in Age-group 5—14 over Literates Per 1,000 of Population in Age-group 15—34, 1961	364—365	188	Number of Medical Doctors Per 100,000 of Population, 1961	414—415
Demographic Regions					
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ORIENTATION

MAP I

INDIA AND THE WORLD



* 1961 and midyear estimates for 1958 and 1961

Data taken from Demographic Year Book, 1962; and out-line adapted from School Atlas, Survey of India

MAP I

INDIA AND THE WORLD

This map shows the geographical location of India in the World. India, covering 2.4% of the earth's land area and supporting 14.3% of the world's population*, is one of the most densely populated countries in the world. It stands out significantly as shown in red hatching among the countries of the Southern Asia by its central Peninsular location. The 80°E Longitude, which is the central meridian for Asia, passes through the heart of India, while the Tropic of Cancer divides the country into the northern and southern halves.

The present outline of India was carved out with the historic Partition of the Indian sub-continent on the eve of the Independence of the country on August 15, 1947. The lands, which once formed the Indian Empire under the British rule were divided into the Dominions of India and Pakistan. Despite the partition, India remains a distinct geographical unit covering the land mass between Cape Comorin in 8°N and the towering peak K² in 35°55'N. Its longitudinal stretch is from 68° 20'E to 97° 40'E. Within the girdle of mountains in the North and the East and seas in the South, India had developed and preserved a culture of its own.

The formidable Himalayas stretching over 24° of longitudinal divisions between the Indus and the Brahmaputra form the International Boundary of India in the North. Beyond it lie Afghanistan, China, Tibet and Nepal. A great arc of tightly packed parallel ranges and valleys in a belt, 128-80 kms. broad, forms the eastern border of India dividing it from Burma. This eastern boundary line is full of rugged terrain and dense forest-cover. The rest of

India's land-frontier is an artificial line bordering East and West Pakistan. The boundary line along West Pakistan stretches for about 2,830 kms. from the Rann of Kutch through the Thar desert and Punjab plain to the Hindukush range, while in the East it encloses East Pakistan. The emergence of East Pakistan brought an additional boundary line of 5,140 kms. into existence. On the whole, the land frontier of partitioned India including the perimeter of enclaves is well over 15,000 kms. in length and much of this length lies in the mountains which make an excellent political divide between India and countries in the North and the East.

India is secured by the mountain barrier on one side and by the sea on the other. India's maritime relations with the world were in the past somewhat difficult due to its harbourless coast. A stretch of about 3,000 kms. of the Arabian Sea along 10°N separates India from N.E. Africa in the West and 400 kms. of sea of the Bay of Bengal separates it from Burma in the East. In the South lies the vast stretch of the open Indian Ocean down to Antarctic continent. India has a coastline of about 5,700 kms.

The central location of India imparts considerable advantage of trade and commerce to the country, for she lies at the mid-point of Air and Oceanic routes connecting Europe and Asia. Air routes originating in Japan and Australasia lead westward touching Calcutta, Delhi, Madras and Bombay airports in India. In a similar way the Oceanic routes from Japan and Australasia pass via Calcutta and Bombay ports to the West. In both routes India lies midway.

Source : United Nations—Demographic Year Book, 1962.

* World Population in 1961—3,069 million.

MAP 2
POLITICAL DIVISIONS, 1961

Purpose : The administrative divisions of the country as prevailing in 1961, when a census was taken, are depicted in this map.

Method : In this map, the administrative boundaries—International, State, Zonal and District—are demarcated by lines with various symbols. The capitals of India and the States/Union Territories are shown by a star and encircled dots respectively. State and District names are inserted in the heart of

the respective administrative units. Wherever the name of a district differs from that of its administrative headquarters, the former is inserted in bracket, e.g., Krishnanagar (NADIA).

Salient Features : India comprises an area of 3.3 million square kms., inhabited by 439 million persons in 1961. It consists of 15 States and 11 Union Territories and SIKKIM. Their area, population and capitals are given below :—

Sl. No.	State/Union Territory	Area in Sq. Kms.		Population	Capital
		Surveyor General of India	State Survey Department**		
1	2	3(a)	3(b)	4	5
	INDIA	3,276,140*	3,265,368	439,234,771	New Delhi
	STATES				
1	Andhra Pradesh	275,281	274,675	35,983,447	Hyderabad
2	Assam	121,965	122,396	11,872,772	Shillong
3	Bihar	174,038	173,364	46,455,610	Patna
4	Gujarat	187,115	184,034	20,633,350	Ahmedabad
5	Jammu and Kashmir	222,799*	222,799	3,560,976	Srinagar
6	Kerala	38,855	38,857	16,903,715	Trivandrum
7	Madhya Pradesh	443,452	437,820	32,372,408	Bhopal
8	Madras	130,357	129,900	33,686,953	Madras
9	Maharashtra	307,477	306,345	39,553,718	Bombay
10	Mysore	192,204	191,262	23,586,772	Bangalore
11	Orissa	155,825	155,845	17,548,846	Bhubaneswar
12	Punjab	122,005	122,518	20,306,812	Chandigarh
13	Rajasthan	342,274	341,595	20,155,602	Jaipur
14	Uttar Pradesh	294,364	294,947	73,746,401	Lucknow
15	West Bengal	87,617	88,562	34,926,279	Calcutta
	UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	8,327	8,327	63,548	Port Blair
2	Delhi	1,484	1,484	2,658,612	Delhi
3	Himachal Pradesh	28,192	27,719	1,351,144	Simla
4	Laccadive, Minicoy and Amindivi Islands	29	29	24,108	Temporary Hqrs. Calicut (Kozhikode)
5	Manipur	22,347	22,347	780,037	Imphal
6	Tripura	10,453	10,661	1,142,005	Agartala
7	Dadra and Nagar Haveli	489	496	57,963	Silvassa
8	Goa, Daman and Diu	3,693	3,706	626,667	Panjim
9	Pondicherry	479	469	369,079	Pondicherry
10	North-East Frontier Agency	81,424	81,424	336,558	Shillong (Assam)
11	Nagaland	16,488	16,488	369,200	Kohima
12	SIKKIM	7,107	7,299	162,189	Gangtok

The States are administered by Governors appointed by the President of India, in whom are vested all Executive Powers of the State and who exercise them either directly or through some subordinates in accordance with the Constitution. The Governor is advised in the exercise of his function by a Council of Ministers with the Chief Minister at the head.

Union Territories are administered by the President according to the Constitution. President makes regulations for the peace, progress and good Government of the Union Territory. He administers these Areas through Chief Commissioners or some subordinate officials. The North-East Frontier Agency is administered by the Governor of Assam as an Agent of the Central Government. Sikkim is clubbed with India by a special treaty.

For administrative purposes the States are divided into districts and the districts into sub-divisions or Tahsils or Police Stations or Anchals. The Union Territories are divided into divisions except Himachal Pradesh which is divided and sub-divided into districts and tahsils. There are in all 335 districts excluding Sikkim of varying sizes in the country. It is of interest to note that the

size of the districts in the fertile Ganga Plain is small while that in the Rajasthan desert as well as in the less productive Deccan Plateau is relatively large. Uttar Pradesh, for example, with an area of 0.29 million sq. kms. is divided into 54 districts whereas Rajasthan having more aerial extension—0.34 million sq. kms. is divided into 26 districts. In the plateau section of Southern States—Andhra Pradesh, Madras, Maharashtra and Mysore—the size of all the districts is uniformly large. On the other hand the productive coastal districts as those in Kerala State and in the delta area of Madras, Andhra Pradesh and Orissa are comparatively smaller in size.

It is important to mention that out of total districts in India, six districts—Dangs of Gujarat, Lahaul and Spiti of Punjab, Pithoragarh and Chamoli of Uttar Pradesh, Kinnaur of Himachal Pradesh and Tuensang of Nagaland are entirely rural and even their headquarters are not recognized as urban. Out of these six districts five lie in the rugged and inhospitable terrain of the Himalayas and one in the North-West tip of the Western Ghat. The Union Territories of N.E.F.A., Dadra and Nagar Haveli and Laccadive, Minicoy and Amindivi Islands have no urban population. The headquarters of their sub-divisions are obviously villages.

*The Censused area of India and Jammu and Kashmir is 3,192,333 and 138,992 sq. kms. respectively.
**The area figures in respect of Jammu and Kashmir, North-East Frontier Agency and Andaman and Nicobar Islands are as supplied by the Surveyor General of India.

Source : 1 Census of India, 1961, Volume I, India, Part II-A(i)—General Population Tables.
2 The Constitution of India.
3 Survey of India, School Atlas, 1961.

MAP 2

INDIA

POLITICAL DIVISIONS

1961



Purpose : Title of the map suggests its purpose.

Method : Two different colours are used to differentiate the administrative boundaries of India in 1951 and 1961. The territories which are transferred from one State to another during this intercensal period are shown by hatchings. The erstwhile French and Portuguese Possessions since merged in Indian Union are shown by buff colour.

Salient Features : Following the Independence Act of 1947, the 'British India' was divided into Dominions of India and Pakistan. Due to this partitioning, the boundaries of Punjab, Bengal and Assam were reoriented by a Commission presided over by Sir Cyril Radcliffe. In the wake of Independence, modification of the Provincial Structure of India took place under the leadership of the then Deputy Prime Minister, Sardar Vallabh Bhai Patel. An attempt was made to merge or integrate in the new set up of States of the Indian Union the former 570 "Indian States" of varying sizes. Many of the smaller States were grouped together to form more manageable unions, each under a Rajpramukh, e.g., Saurashtra which absorbed no fewer than 222 States in the Kathiawar Peninsula. In some cases the States which were interspersed in the districts of Governors' Provinces, were merged with their respective Provinces. The State boundaries of Madras were further readjusted on linguistic basis during 1953 as a result of Andhra State comprising of areas where Telugu is predominantly spoken as mother tongue being carved out of Madras State. A marked change in the State boundaries occurred in the wake of the momentous States Reorganisation Act of 1956.

A wholesale reorganisation of States primarily on a linguistic basis took place on 1 November, 1956 under the States Reorganisation Act and the Bihar and West Bengal (Transfer of Territories) Act, 1956. As against 27 Part 'A', 'B' & 'C' States and two Part 'D' territories and other areas in 1951, 14 States, 6 Union Territories and one other area were formed.

Following the Andhra State Act of 1953, as already mentioned the State of Andhra originated on 1st October, 1953 from the old State of Madras with eleven districts of Srikakulam, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Nellore, Kurnool, Anantapur, Cuddapah and Chittoor. Two of the taluks, viz., Alur and Adoni of Bellary district of Madras State were added to Kurnool district and on the other hand Rayadurg taluk of the same district was transferred to Anantapur district. The State of Andhra encountered boundary changes, again, in 1956 when it was renamed as Andhra Pradesh. The districts of Hyderabad, Medak, Nizamabad, Karimnagar, Warangal (except some taluks), Nalgonda, Mahbubnagar and Adilabad (except Islapur circle of Boath Taluk and Kinwat and Rajura Taluks) of the former Hyderabad State were added to it and some transfers of taluks also took place from the bordering districts of Raichur, Gulbarga and Bidar of the same State. There occurred some slight changes in the administrative boundaries of Andhra Pradesh and Madras State as on 1 April, 1960 as a result of Pataskar Award [The Andhra Pradesh and Madras (Alteration of Boundaries) Act, 1959] affecting the boundaries of Chittoor district of Andhra Pradesh and Salem, Chingleput and North Arcot districts of Madras.

The size of Madras State was reduced to half when Andhra State emerged out of it and the district of Bellary transferred to Mysore State in 1953. The State had to undergo boundary orientation again in 1956 when it gained five taluks from the former Travancore-Cochin State. Shencottah taluk of Quilon district was merged with Tirunelveli district and the remaining four taluks from Trivandrum district together formed a new district of Kanyakumari. In the same year Madras lost the district of Malabar, Kasaragod taluk of South Kanara district and Kollegal taluk of Coimbatore district which were shared between newly formed Kerala State and Mysore State.

In 1956, the old Travancore-Cochin State except a few taluks, with Malabar district and Kasaragod taluk of South Kanara district of Madras State together formed the new State of Kerala.

The reorganisation of Mysore State took place by combining with the old Mysore State, four districts viz., Belgaum (except Chandgad Taluk), Bijapur, Dharwar and North Kanara (Kanara) from old Bombay State and three districts viz., Gulbarga, Raichur and Bidar of Hyderabad State and South Kanara district (except Kasaragod Taluk) and Kollegal taluk of Coimbatore district and Bellary district (except Adoni, Alur and Rayadurg taluks) of Madras State. The territories of the erstwhile State of Coorg were integrated to form a district of Mysore State and Kollegal taluk of Coimbatore district of Madras State was merged with Mysore district, thus giving rise to a total of 19 districts. Some minor adjustments were also made at taluk level.

Note : For details of changes in Administrative Boundaries please see Appendix I to Table A-I (pp. 94-105) published in Census of India 1961, Volume I, Part II-A (i).

The size of Bombay State was reduced in the wake of the States Reorganisation Act of 1956. Many of its districts were transferred to the adjoining States of Madhya Pradesh, Mysore and Rajasthan. Four districts viz., Dharwar, Kanara, Bijapur and Belgaum (*minus* one taluk) of the old Bombay State were transferred to Mysore State. Abu Road taluk of Banaskantha district was joined with Sirohi district of Rajasthan State. On the other hand, five districts—Aurangabad, Parbhani, Bhir, Osmanabad and Nanded with the exception of 5 circles and five different taluks and a circle of the Hyderabad State were added to Bombay State. Eight districts—Buldhana, Akola, Amravati, Yeotmal, Wardha, Nagpur, Bhandara and Chanda of the erstwhile Madhya Pradesh were also joined with the State of Bombay. The territories of the erstwhile States of Kutch and Saurashtra were integrated with Bombay to form separate districts.

In 1960, a drastic change in the boundary of Bombay occurred. It was split up into two new States, the State of Maharashtra and the State of Gujarat. The State of Gujarat was formed with 17 districts of the old State of Bombay. These are the districts of Banaskantha, Mehsana, Sabarkantha, Ahmedabad, Kaira, Panchmahals, Baroda, Broach, Surat, Dangs, Amreli, Surendranagar, Rajkot, Jamnagar, Bhavnagar, Junagadh and Kutch together with 203 villages and 3 towns of adjoining districts of West Khandesh and Thana of Bombay State. The remaining 26 districts of former Bombay State formed the new State of Maharashtra.

Rajasthan also could not maintain its *status quo* following the States Reorganisation Act 1956. The Sironj Sub-division of Kota district of Rajasthan State was merged with Vidisha (Bhilsa) district of Madhya Pradesh State, the Princely State of Ajmer became a district of Rajasthan State, Abu Road taluka of Banaskantha district of Bombay State was added to Sirohi district of Rajasthan State and Sunel Tappa area of Bhanpura Tahsil of Mandsaur district of former Madhya Bharat was added to the Jhalawar district of Rajasthan.

The Rajasthan and Madhya Pradesh (Transfer of Territories) Act, 1959 also introduced a number of changes. The new State of Madhya Pradesh consisted of (i) territories already existing in Madhya Pradesh *minus* the 8 districts which were joined with Bombay; (ii) the territories of the Madhya Bharat State with the exception of one taluk of Mandsaur district; (iii) Sironj Sub-division of Kota district; (iv) the State of Bhopal and (v) the State of Vindhya Pradesh.

In 1956, the old Patiala and East Punjab States Union and former Punjab as in 1951 were joined to form the present Punjab State.

The year 1956 witnessed the change of Boundaries in Bihar and West Bengal also as a result of the Bihar and West Bengal (Transfer of Territories) Act, 1956. Portions of Kishanganj Sub-division and Gopalpur Thana of Purnea district of Bihar were transferred to Darjeeling district of West Bengal. Purulia Sub-division of Manbhum district of Bihar *minus* the Chas Thana, Chandil Thana and Patamda Police Station of Barabhum Thana was transferred to West Bengal, as a result a new district known as Purulia emerged.

The territory of Chandernagore, a French possession, was merged with the Hooghly district of West Bengal in 1954 as a result of Chandernagore (Merger) Act, 1954.

The new State of Himachal Pradesh was formed by uniting the then existing States of Himachal Pradesh and Bilaspur according to the Himachal Pradesh and Bilaspur (New State) Act, 1954.

A strip of territory from Kamrup district of Assam was ceded to Bhutan by the Assam (Alteration of Boundaries) Act, 1951. In 1957 the Naga Hills—Tuensang Area Act, 1957 provided for the formation of the Naga Hills—Tuensang Area of Assam as an Administrative Unit.

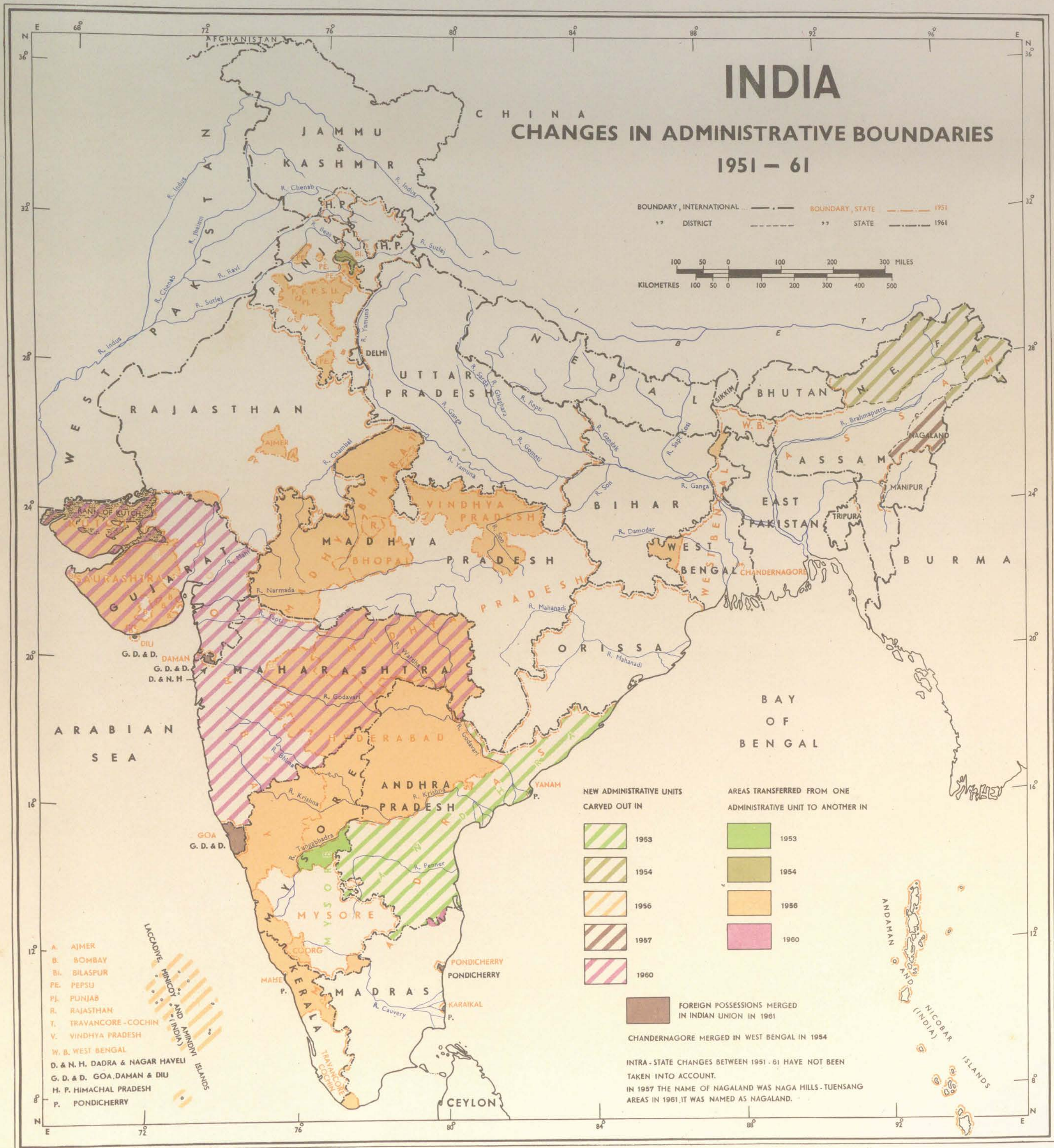
Following the Reorganisation Act of 1956, Laccadive, Minicoy Islands of Malabar district and Amindivi Islands of South Kanara district of old Madras State were joined together to form the Union Territory of Laccadive, Minicoy and Amindivi Islands.

The Tenth Amendment of Constitution Act, 1961 established the Union Territory of Dadra and Nagar Haveli on 11th August, 1961. Following the Constitution (Twelfth and Fourteenth Amendment) Acts of 1962 the Union Territories of Goa, Daman and Diu and Pondicherry came into existence with effect from 20th December, 1961 and 16th August, 1962 respectively. The State of Nagaland Act, 1962 created a new State of Nagaland which comprised the former Naga Hills and Tuensang Area and has come into operation with effect from the 1st December, 1963.

Source : Census of India, 1961, Volume - I, India, Part II-A(i)-General Population Tables.

INDIA

CHANGES IN ADMINISTRATIVE BOUNDARIES 1951 - 61



PHYSICAL ASPECTS

MAP 4

PHYSIOGRAPHY

Purpose : This map depicts the physiographic details of the country.

Method : Altitudes above and below Sea level are depicted by contour lines and bathymetric lines at specific intervals. The intervening spaces between contours are shaded in colours from deep to light brown and green depicting high to low altitudes and those between bathymetric lines by blue colour from deep to light shades indicating depth of various magnitudes below Sea level.

Salient Features : India may broadly be divided into five physiographical units as shown in this map. They are (1) the Himalayas and the Eastern Hill Ranges; (2) the Great Plains; (3) the Peninsular Plateau; (4) the Coastal Plains; and (5) the Islands. Physiographical contrasts of these regions are very striking. The Himalayas show very youthful relief features, the Indo-Ganga Plain a monotonously flat surface and the Peninsular Plateau presents a very old and senile topography.

1. The Himalayas and the Eastern Hill Ranges : The vast Himalayas in the North form the International boundary of India with Afghanistan, China, Tibet, Nepal and Burma. The Himalayas rise very abruptly from the plains and they are covered at high altitudes with vast sheets of ice and glaciers. The Greater Himalaya runs south-eastwards from Nanga Parbat (8,126 m.) to Nepal across the States of Jammu and Kashmir, Punjab and Himachal Pradesh. The Greater Himalaya in the north-west is flanked by three parallel ranges—the Karakoram, Ladakh and Zaskar in the North and two parallel ranges Pir Panjal and Siwalik in the south. The famous vale of Kashmir over which the river Jhelum meanders, lies between the Greater Himalaya and the Pir Panjal. Further North in between the Zaskar and Ladakh ranges lies the Indus Valley and the river Shyok, a tributary of the Indus, flows through the trough between the Karakoram and the Ladakh ranges. The central part of the Greater Himalaya lies in Nepal and Uttar Pradesh where a number of ice-clad towering peaks are visible, such as, Mount Everest (8,848m.), Dhaulagiri (8,172m.), Nanda Devi (7,817 m.) and Kamet (7,756 m.). Further East the Himalaya changes its trend as West-East and passes through the Sikkim, Bhutan and the territory of North-East Frontier Agency. The highest peak of the Eastern Himalaya is Kanchenjunga (8,598 m.) which lies in Darjeeling district of West Bengal State. Near Namcha Barwa (7,756 m.) in the extreme north-east, the trend of the Himalaya changes from west-east to north-south. These north-south folds form the divide between India and Burma.

2. The Great Plain : The Northern plain stretches from Rajasthan desert in the west to Brahmaputra valley in the east. The plain in Rajasthan is an arid region of shifting sand-dunes and dry *wadis*. The rest of the Great Plain is watered by three distinct river systems – (i) Sutlej-Beas System in the North-West; (ii) the Ganga-Yamuna System in the Centre; and (iii) the Brahmaputra System in the East. These three river systems take their rise beyond the high wall of the Greater Himalaya. The largest river system which has filled up this northern trough is the Ganga-Yamuna System. The river Ganga and its tributaries—Yamuna, Ramganga, Gomati, Sarda, Rapti, Ghaghara, Gandak, Sapt Kosi are fed by the drainage lines of the Himalayas and join the Bay of Bengal after a long and meandering route. At the eastern extremity the river Brahmaputra flows through a trough in between Bhutan and Assam Himalayas in the north and the Shillong Plateau in the south and joins the Ganga system at a point not far off from the Bay of Bengal. It receives tributaries in number from the Himalayas in the north and east such as Dibang, Lohit, Dihang etc. The river system of this Great Plain also receives drainage from the Central

Highlands in the south. The most important tributaries from the south are the Chambal and Son.

3. The Peninsular Plateau : The Peninsular plateau forms the third physiographic unit. It is a tabular block with a general slope from North-West to South-East. Within the frame-work of Sahyadri (Western Ghats) in the West, Vindhyan scarplands in the north, Rajmahal hills in the East and Cape Comorin in the south lies the vast triangular plateau of Deccan, formed of various types of rocks but more of Archean Age. The North Sahyadri is built of horizontal lava-sheets while the Nilgiris are formed of granitoid gneisses. The Sahyadri rises from the east in steps and from the west its abrupt rise appears like a wall. All major rivers of the Deccan Plateau—Bhima, Krishna, Tungabhadra, Godavari, Cauvery have their sources on the Sahyadri range. Palghat gap is a rift valley which separates Sahyadri range from Anaimalai hills in the south. Anai Mudi Peak (2,695 m.) is the highest point of Anaimalai hills where Palni and Cardamom hills also join. The Shillong Plateau is the eastern extension of the Deccan Plateau detached from the latter by the thick alluvium of the Ganga and Brahmaputra rivers.

To the north of the Deccan Plateau lie the hilly and eroded crests of the central highlands. Aravalli is the Western end of the Central Highlands which runs as far as Delhi. The rolling highlands of Bundelkhand and Malwa Plateau are found in the north. In the eastern part there lies a series of plateaus separated from each other by scarps formed of Vindhyan sandstones. The Narmada valley flows through a structural depression between Vindhyan and Satpura hills. Anticlinal hills and valleys are formed of sandstones and limestones in Baghelkhand Plateau, of granite and gneisses in Chotanagpur, Ranchi and Hazaribagh Plateaus. To the north of the Ranchi Plateau, Damodar flows through the faulted trough of Lower Gondwana Age. The Mahanadi river runs through Chhattisgarh which is a structural basin formed by horizontally bedded limestones and slates. Further south lie the forested hills and plateaus of Bastar and Koraput.

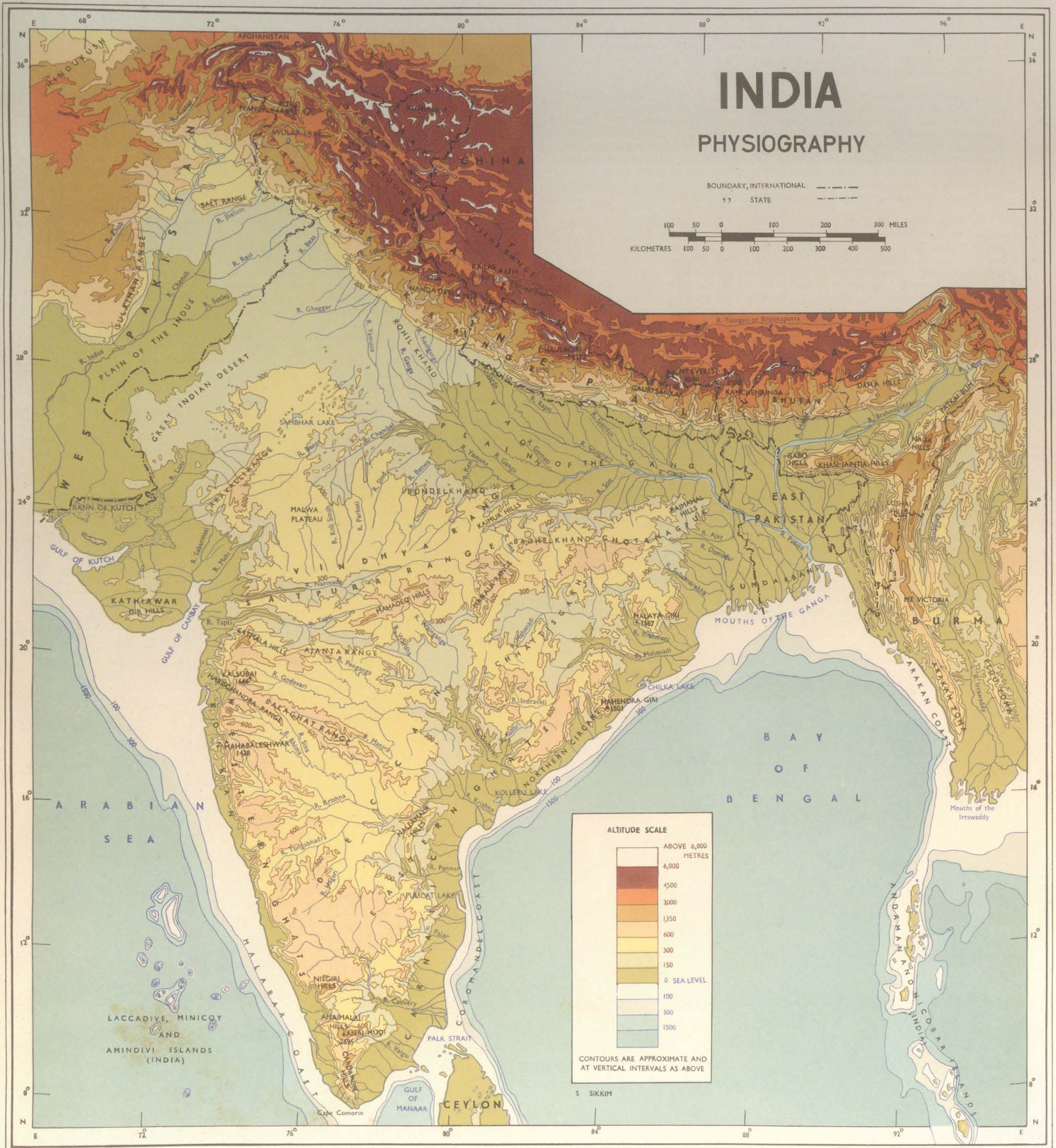
The Eastern Ghats are so much worn down that their hilly characters in places are lost. The discontinuous hills are found between Godavari and Mahanadi the Nallamala hills in the Cuddapah and Kurnool districts of Andhra Pradesh State, the Shevaroy and Javadi hills of Madras State. The Peninsular rivers other than Tapti and Narmada which drain to the Arabian Sea flow to the Bay of Bengal cutting through the Eastern Ghats.

4. The Coastal Plains : The Coastal Plains of India are very little indented by large inlets; the significant ones are, however, the Gulf of Cambay and the Rann of Kutch. Of these two, the first one is a Sea while the latter one is a saline and marshy tract locked in between Sindh and Kutch Peninsula. The East Coast is much broader than the West Coast due to the formation of deltas by the major river systems of the Peninsula. The widest part of the East Coast is visible at the delta points—the Mahanadi delta in Orissa State, the Krishna-Godavari deltas in the State of Andhra Pradesh and the Cauvery Delta in Madras State.

5. Islands : Islands in the Bay of Bengal and Arabian Sea comprise the fifth physiographic division of India. In geo-lithology they differ from each other. The Andaman and Nicobar Islands are formed of elevated portions of submarine mountains while the Laccadive, Minicoy and Amindivi Islands are entirely built of corals.

Source : 1 India & Pakistan, O.H.K. Spate, London, Methuen & Co. Ltd., 1954.
2 Geology of India, D.N. Wadia, London, Macmillan, 1961.
3 Encyclopaedia Britannica, Volume-12, London, 1962, pp 150—153.

MAP 4



Purpose : This map represents the geo-lithology of India.

Method : The broad geological divisions of the country have been shown in this map by different symbols. Ten generalised geological sequences from Archaean to Recent Period have been taken into account. The metal-bearing rocks are made significant by the use of brown colour.

Salient Features : India has three well-marked geomorphological components—the Peninsular Shield, the Indo-Ganga Alluvial Plain and the Extra-Peninsular area—each having its distinguishing geological character. These three units exhibit marked contrast in physical features, stratigraphy and structure. The Peninsular Shield is composed of very old stable rocks of igneous origin, covering about three-fourths of the total area of the country. To the north of this massive block, lies the Great Indo-Ganga Alluvial Plain of Pleistocene and Recent formation and the folded mountainous region, geologically known as Extra-Peninsula stretching from Kashmir Himalayas to Assam Himalayas.

More than half of the Peninsular India is covered with Charnockites and unclassified crystalline rocks of Archaean age of Pre-Cambrian Period. Among the Archaean, Dharwarian and Khondalities are important metal-bearing rocks and they contain igneous and sedimentary materials of later formations. The rocks of the latter group may also be seen in the Garo-Khasi and Jaintia Hills, North-East Frontier Agency, Bhutan border and Sikkim. The Archaeans, however, not only form the foundation of the Peninsular Plateau, but also form the backbone of the Himalayas, which have come up during the Tertiary period. The rocks of subsequent geological formations are the Cuddapahs, the Vindhya, the Gondwanas and the Deccan Traps. They occupy the rest of the Peninsula except the narrow coastal fringe composed of recent alluvium.

The rocks of the Dharwar age which have much economic value as they contain some important metallic minerals, such as gold, iron-ore, manganese, chromium, copper etc., can be traced in Mysore, Chotanagpur Plateau, Orissa hills and plateau, the Ganga Valley and the Aravallis. The remnants of this rock may also be seen in the Mishmi Hills; Dihang—Dibang-Luhit Valleys and Khasi Jaintia areas in Assam and North-East Frontier Agency and a few scattered areas in Jammu and Kashmir.

The older Palaeozoic, Vindhya, Himalayas, Puranas and Cuddapah groups of rocks occur in the Cuddapah Basin (a crescent shaped basin lying in Andhra Pradesh; its concave side facing the east and being 336 kms. long and maximum width is 144 kms.). In the northern border of the Peninsular Massif there is a long strip of area overlain with these older deposits which overlook the Ganga Plain in the north and the Aravalli mountains in the west. This belt stretches further upto Delhi in the north-west and Gujarat Plains in the southwest. Away from this Peninsula, they occur in the Himalayas particularly in Kashmir Himalayas and Kumaun Himalaya of Uttar Pradesh. Copper, cobalt, asbestos, beryles, building stones etc. are some of the economic minerals of national and regional importance associated mainly with this Cuddapah system. The most famous diamond deposits belong to the Upper Vindhyan system of the Cuddapah series.

The rocks of Triassic, Permo-Carboniferous and Lower Gondwana age are mainly developed in the southern bank of the Son, Chotanagpur Plateau, Lower Godavari basin and in the Extra-Peninsular area, particularly, in the north Kashmir Himalaya and northern hill areas of Uttar Pradesh. It may be seen that all coal-seams lie in the Lower Gondwana series, such as, in the Damodar valley, in the Upper Mahanadi valley and in the Godavari trough.

The rocks belonging to the Cretaceous, Jurassic and Upper Gondwana system are developed in the Narmada-Son water-divide, Spiti, Kumaun Himalaya, Kashmir Himalayas, Kutch Peninsula and north-east of Kathiawar Peninsula, Rajmahal area in Bihar, north of middle Godavari valley and north-west of Cauvery delta. There are small patches of Upper Gondwana rocks at the eastern edge of the gneissic plateaus in the Madras State. The Peninsula witnessed marine transgressions in the coastal regions in the Jurassic, Lower Cretaceous and Miocene times.

The Deccan Trap which originated from the basaltic lava flows, cover an area of 518,000 sq. kms. in the north-western quadrant of the Peninsular Shield. The flat-topped hills, deep-cut valleys and step-like terraces are some of the characteristic features of the Deccan Traps. Such rocks are the outcome of fissure-eruptions which probably took place during the later part of the Cretaceous Period and continued till Eocene times. The Deccan Trap area is the storehouse of stones, such as, quartz, amethyst, agate, carnelian and other varieties of chalcedony which are used as semi-precious stones. The Trap rocks are intensively used as road and building materials.

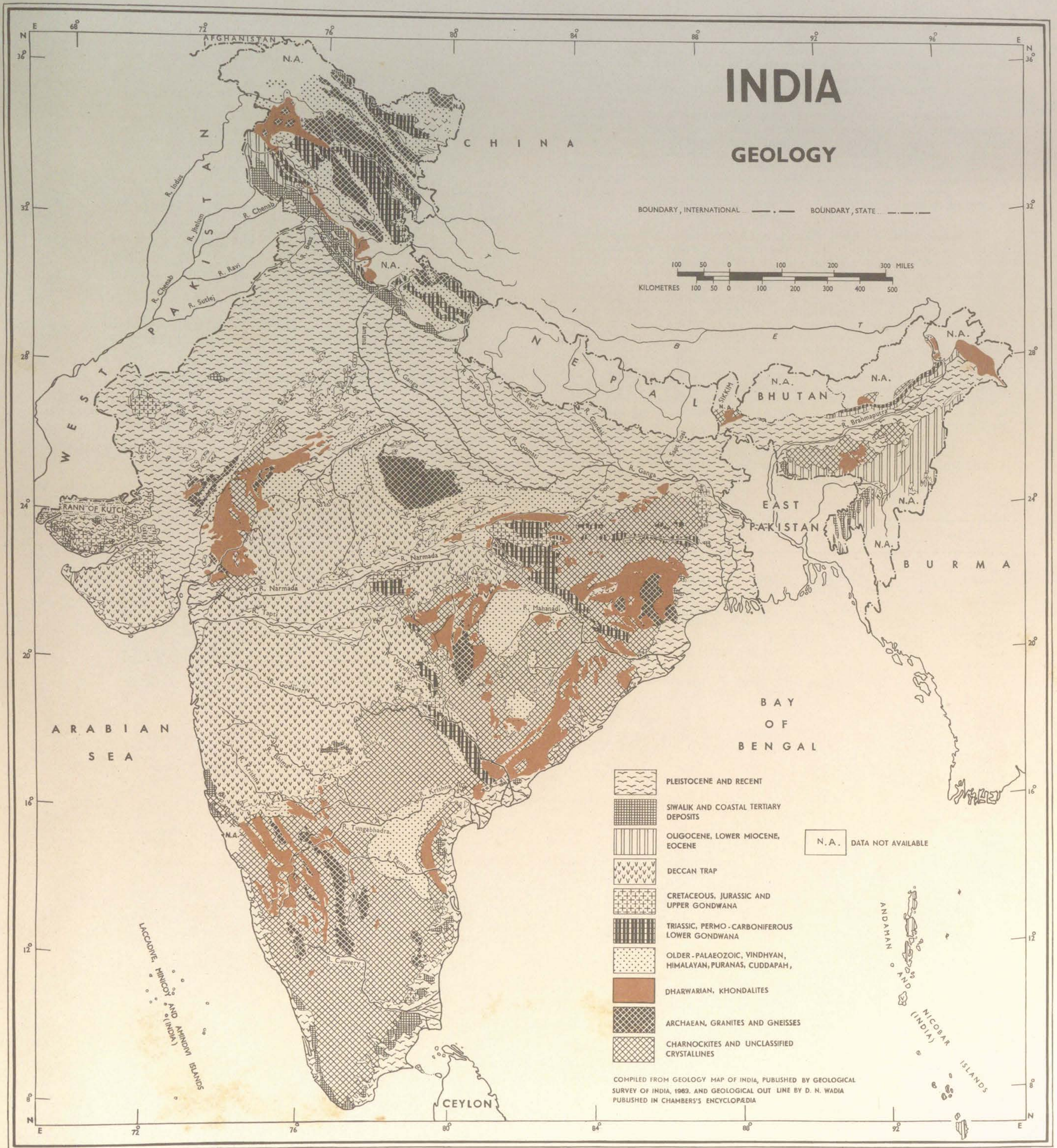
The Extra-Peninsular region shows excessive folds of the rocks of Oligocene, Lower Miocene & Eocene age. They are considerably formed in the eastern hills of Assam and Nagaland, Manipur, Tripura and a few narrow belts in Jammu and Kashmir State and Himachal Pradesh. Small outcrops may also be seen in Kathiawar and Kutch Peninsula and Jaisalmer district of Rajasthan. To the south of the Pir Panjal range, there is a series of outcrops of Eocene rocks near Riasi tehsil of Udhampur district in Jammu and Kashmir State. This belt continues south-eastward along the foot hill zone of Simla. Petroleum, coal, limestone, clay etc., are some of the important minerals to be found in the Oligocene-Eocene strata.

A long and narrow fore-deep was formed in front of the Himalayas and gradually filled up largely by the sediments from the mountains in the north. This process probably commenced as early as in the middle Miocene period and thus resulted the uplift of the Siwalik range. The Siwalik deposits extend continuously along the foot of the Himalayas, over-looking the Indo-Ganga Plains in the South. The Tertiary deposits are found along the east and west coasts of India.

The Indo-Ganga depression is the fore-deep of the Himalayas, separating the massive Peninsular Shield from the Extra-Peninsular region. This vast Alluvial deposit of Pleistocene and Recent times, covers an area over 647,500 sq. kms., extending from West Pakistan border to the Brahmaputra valley in the east.

Source : 1 Wadia, D. N., Geology of India, London, Macmillan, Third Edition (Revised), 1961.
2 Encyclopaedia Britannica, Vol. 12, London, 1962, pp. 151—153.
3 Krishnan, M. S., Geology of India & Burma, Higginbothams (P) Ltd. Madras. 1960.

MAP 5



DISTRIBUTION OF MINERALS USED FOR FERROUS METALLURGICAL INDUSTRY

Purpose : This map shows the distribution of minerals which are used for ferrous metallurgical industry along with the geo-lithology of the mineral bearing rocks. These minerals are coal, iron-ore, manganese, limestone and dolomite. Together with these minerals, locations of existing, proposed potential iron and steel centres of the country are shown. The graph in the right-hand corner depicts the yearly production trend of these minerals during 1951-61.

Method : Geo-lithology of the mineral-bearing rocks is shown by five colours as given in the legend. Against this coloured background the distribution of minerals—coal, iron-ore, manganese, limestone and dolomite—is shown by different symbols. Sites for steel plants—existing, proposed and potential—are shown by three different symbols. Production-trend of different minerals during 1951-61 is shown by line-graphs in their respective colours. Graph with continuous lines indicates production in quantity and that with broken line gives production in values.

Salient Features : India's minerals used for ferrous metallurgical industry are concentrated mainly in the north-eastern and southern Plateaus. The former plateau embraces northern part of Andhra Pradesh, eastern part of Madhya Pradesh, southern part of Bihar, northern part of Orissa and western part of West Bengal. It is bounded in the south and south-west by Godavari and Wardha rivers respectively, in the north-west by the Son river, in the north-east by the edge of Chotanagpur Plateau and in the east by the Hooghly river. It contains all the minerals essential for developing an industrial complex based on ferrous metallurgy. Here, coal and iron-ore deposits lie in parallel belts and the gap in between them narrows down from west to east. The coal deposits are in the Lower Gondwana trough roughly coinciding with the Damodar and Godavari Valleys, while manganese and iron-ore reserves lie in the Dharwarian and Khondalite rocks occurring in a belt along the boundary between Bihar and Orissa States extending upto Chhattisgarh basin and Bastar Plateau. Flux-minerals—limestone and dolomite—occur in older Palaeozoic rocks, mainly in Cuddapah series.

The Southern belt of ferrous minerals comprises south-western part of Andhra Pradesh and south-central and western parts of Mysore State. Dearth

of coal is a serious problem for supporting steel plants in this belt.

Since iron-ore and fuels account for more than two-thirds of the prime cost of iron and steel, the most economic location for the iron and steel plant would be either in the iron-ore area or in the coal-belt, provided they occur very close to one another. The existing iron and steel centres have been constructed at points where assembly-costs of iron-ore and coal are low.

Five out of the six major iron and steel centres of India are located in the north-eastern plateau. The IISCO (Indian Iron and Steel Company) at Kulti-Burnpur and Durgapur Steel Plants are situated in the coal-field belt, while Bhilai and Rourkela Steel Plants are located in the iron-ore belt and both the belts of steel plants exhibit somewhat parallel alignment. The TISCO (Tata Iron & Steel Company) is situated in between iron-ore and coal-belts where the gap narrows down to about 80 kms. The MISW (Mysore Iron and Steel Works) the only iron and steel centre of southern India, is located in the iron-ore belt of Malnad area of Mysore State.

In the context of the rising demand for iron and steel in the country, the construction programme of Bokaro project in Bihar, for which Soviet aid is forthcoming, is under way. The potential sites for a few more steel plants which are envisaged for construction in the Third Five Year Plan are at Panjim in Goa, Visakhapatnam in Andhra Pradesh, Hospet in Mysore and Salem in Madras.

In quantity of production, coal ranks first, followed by limestone, iron-ore, manganese and dolomite, but in value, coal is followed by manganese, iron-ore, limestone and dolomite.

Among the five minerals, coal, limestone and iron-ore show a general upward trend in production both in quantities and values during 1951-61. Production of manganese fell after 1956 but is showing signs of recovery. But production of dolomite has been on the increase since 1956.

The Table given below presents production of various minerals in India and the World and India's rank in World's production.

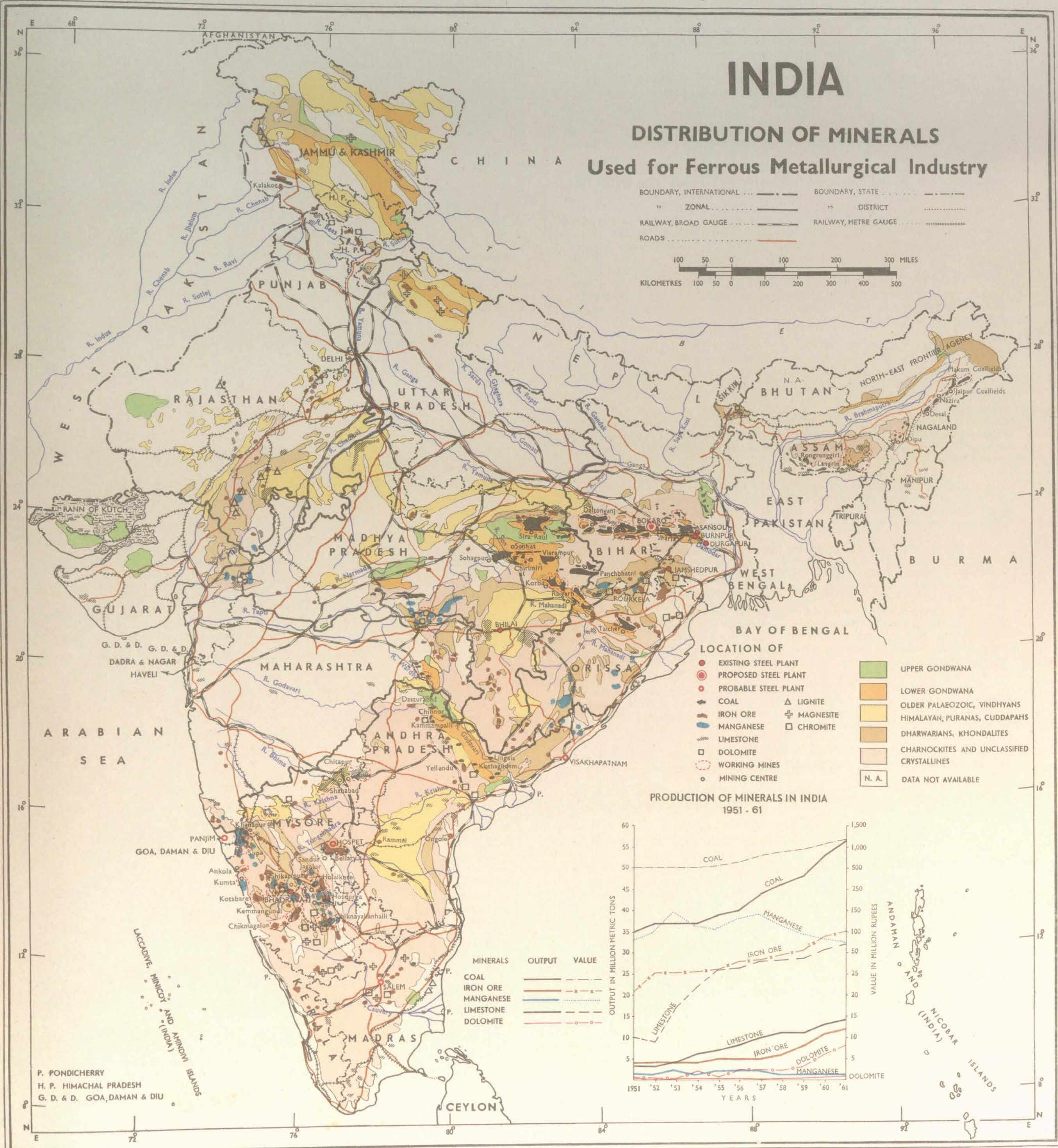
Production of Various Minerals in India and the World
(In thousand metric tons)

Mineral	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	Rank in World's Prodn. 1961
Coal												
World	1,460,400	1,434,000	1,428,300	1,392,700	1,504,100	1,687,800	1,736,000	1,819,200	1,894,500	1,986,100	1,811,800	
India	34,986	36,885	36,557	37,471	38,839	34,910	44,200	46,068	47,821	52,593	56,065	6
Iron-ore												
World	138,200	139,900	159,300	141,800	174,700	186,700	202,500	182,200	193,400	232,400	233,200	
India	3,716	3,989	3,997	4,377	4,753	4,976	5,155	6,130	7,982	10,683	12,270	6
Manganese												
World					Not Available							
India	1,313	1,486	1,933	1,436	1,609	1,764	1,681	1,276	1,187	1,199	1,230	
Lime Stone												
World					Not Available							
India	2,965	2,832	4,137	6,263	7,485	8,385	9,571	10,533	10,831	12,728	14,346	
Dolomite												
World					Not Available							
India	14	4	17	140	92	100	143	177	325	650	721	
Lignite												
World	412,500	437,900	469,100	498,400	538,900	564,200	592,800	613,400	617,500	639,100	662,300	
India	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	19	33	47	64	28
Magnesite												
World	1,640	1,510	2,010	1,605	1,755	2,340	2,340	2,340	2,490	2,950	3,360	
India	119	90	94	72	58	93	90	104	158	156	210	4
Chromite												
World					Not Available							
India	20	36	66	46	91	54	80	64	99	107	49	
Pig iron & Ferro-alloys												
World	148,200	150,400	165,900	155,100	189,000	196,700	206,300	187,270	203,900	231,300	241,300	
India	1,853	1,885	1,804	1,993	1,925	1,992	1,932	2,148	3,192	4,260	5,100	8
Crude Steel												
World	209,800	210,000	232,300	221,400	266,300	278,900	287,000	263,000	292,000	327,600	341,300	
India	1,524	1,603	1,531	1,712	1,732	1,766	1,742	1,842	2,473	3,287	4,084	14

Source : 1 Statistical Year Book, 1956, 1965 and 1966, United Nations.
2 India Minerals, Published by Geological Survey of India, Calcutta.
3 Central Statistical Organisation—Statistical Abstracts of the Indian Union, 1963 & 1964.

INDIA

DISTRIBUTION OF MINERALS Used for Ferrous Metallurgical Industry



DISTRIBUTION OF MINERALS—METALLIC (NON-FERROUS) AND NON-METALLIC

Purpose : The map shows the distribution of minerals other than those used for iron and steel industry such as—copper, lead and zinc, bauxite, graphite, gold, diamond, salt, kaolin, glass sand, petroleum, felspar, talc, china clay, mica, slate, steallite, gypsum, kyanite, asbestos and fluorite.

Method : The distribution of above minerals is shown by twenty different symbols. The locations of Mining centres have been shown by black circles.

Salient Features : This map brings out that India's metallic minerals (non-ferrous)—copper, bauxite, lead & zinc and gold are mainly concentrated in Dharwarian rocks, Charnockites rocks and Deccan Trap. Copper, lead and zinc occur mainly in Dharwarian Schists and phyllites and Charnockites rocks, bauxite in Deccan Trap and Charnockites rocks, while gold in Dharwarian and Charnockites rocks.

Bihar is the leading State in India that produces copper on a commercial scale. About 128 kms. copper-bearing belt commences from Duarparam and runs eastward through Kharsawan and Seraikela. The most important mining centre is Mosabani. In Madhya Pradesh, copper is found in the districts of Raigarh, Surguja, Sidhi, Shahdol, Damoh, Hoshangabad and Dewas and in Uttar Pradesh it is found in the hill districts of Chamoli, Uttar Kashi, Almora, Naini Tal, Garhwal and Dehra Dun. In Rajasthan, copper deposits are found in Jhunjhunu and Alwar districts. Khetri is the most important copper extracting centre in this area.

Bauxite mostly occurs in the Lohardaga region in Ranchi district and part of Palamau district of Bihar. The deposits are also found in Kolaba, Ratnagiri and Kolhapur districts of Maharashtra; Shahdol, Mandla, Balaghat, Seoni, Jabalpur and Satna districts of Madhya Pradesh and Belgaum district of Mysore. There is a good scope for the expansion of Aluminium industry in Bihar, considering the availability of large and good quality of ores in its southern part. The production of aluminium will be more feasible when cheaper power from hydro-electrical projects will be available. However the pressure on the limited supply of copper can partly be relieved by substituting aluminium for copper.

Lead & zinc deposits are mainly found in Udaipur and Alwar districts of Rajasthan; Mayurbhanj and Sundergarh districts of Orissa; Chikmagalur and Chitradurga districts of Mysore; Kangra district of Punjab and Doda and Udhampur districts of Jammu & Kashmir.

Though gold bearing tracts are known in various parts of India, the principal sources of the precious metal are the quartz reefs traversing the Dharwarian rocks in Kolar district. In this area, the gold fields have been under operation for more than 80 years.

Petroleum mainly occurs in Pleistocene and Recent rocks. Digboi oil-field in Assam was the only source for petroleum but recent exploration has led to the discovery of important reserves at Ankleshwar in Gujarat. It is expected that production of crude oil will rise to a level to sustain a thirty lakh-ton refinery in Gujarat by the end of Third Plan.

Graphite is mainly found in Charnockites and unclassified crystalline rocks of Orissa and Andhra Pradesh. The area coincides with Sambalpur, Bolangir, Kalahandi and Koraput districts of Orissa and East Godavari and Khammam districts of Andhra Pradesh.

Salt is mainly extracted from sea-water in Gujarat and Madras States. Kaolin and Glass sands are widespread throughout the country.

Felspar is found in Mandya and Hassan districts of Mysore; Salem district of Madras; Khammam district of Andhra Pradesh and Panchmahals district of Gujarat.

Talc mostly occurs in Almora and Chamoli districts of Uttar Pradesh.

China clay is mainly found in Birbhum and Bankura districts of West Bengal; Santal Parganas, Bhagalpur, Monghyr, Dhanbad and Singhbhum districts of Bihar; Mayurbhanj, Keonjhar, Dhenkanal, Bolangir, Sambalpur, Ganjam and Koraput districts of Orissa and Quilon, Trivandrum and Cannanore districts of Kerala.

The important Mica Mining centres are in Dhanbad and Hazaribagh districts of Bihar. It is also found in Sambalpur, Dhenkanal, Ganjam, Kalahandi and Koraput districts of Orissa; Nilgiri, Coimbatore and Salem districts of Madras; Mysore, Mandya, Hassan and Coorg districts of Mysore; Ratnagiri and Nagpur districts of Maharashtra and Bhilwara and Tonk districts of Rajasthan.

Slate is found in Gurgaon, Kangra and Simla districts of Punjab; Kurnool and Mahbubnagar districts of Andhra Pradesh; and Dhanbad district of Bihar.

Steatite is found in Kurnool, Khammam and Anantapur districts of Andhra Pradesh; Salem district of Madras; Hazaribagh district of Bihar; Udaipur, Bhilwara and Jaipur districts of Rajasthan; Ambala district of Punjab; Sirmur and Kinnaur districts of Himachal Pradesh and Jammu district of Jammu and Kashmir.

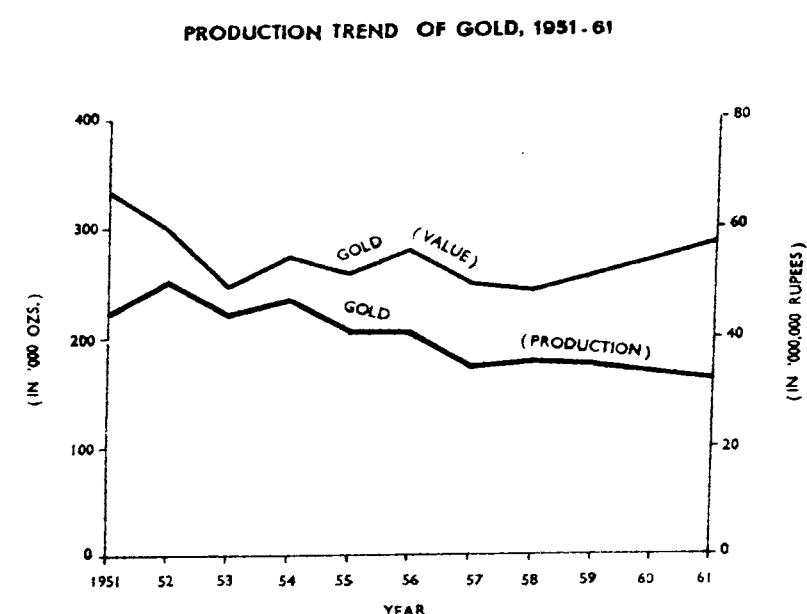
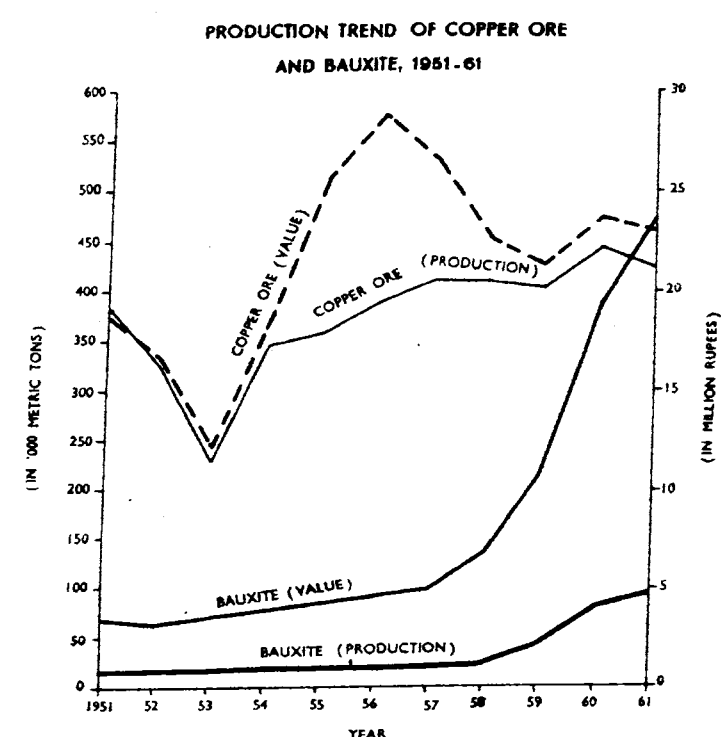
There are large deposits of Gypsum in Ganganagar, Bikaner, Churu, Nagaur and Barmer districts of Rajasthan and Tiruchirapalli, Coimbatore and Ramanathapuram districts of Madras.

Kyanite is found in Mysore, Hassan and Coorg districts of Mysore, Nellore district of Andhra Pradesh, Singhbhum district of Bihar and Udaipur and Bhilwara districts of Rajasthan.

Main deposits of Asbestos are found in Mysore and Mandya districts of Mysore, Salem district of Madras, Singhbhum district of Bihar and Udaipur and Dungarpur districts of Rajasthan.

Fluorite is mainly available in Durg and Raipur districts of Madhya Pradesh.

To evaluate the production trend of copper-ore, bauxite and gold in quantities and values, two graphs are given below :



Production trend of copper ore & bauxite and gold, 1951—61 : It will be seen from the graph that the production of copper both in quantities and values shows a downward trend during 1951—53, an upward trend during 1954—56 and then a fall during 1956—59. As regards bauxite, the production is almost stationary during 1951—58 and thereafter an upward trend is maintained.

Graph for gold shows a fluctuating trend in production. Since 1958 production figure has fallen but production in terms of values shows an upward trend obviously due to increase in price of gold.

Source : Indian Minerals—
Published by Geological Survey of India, Calcutta.



NORMAL MONTHLY AND ANNUAL RAINFALL

Purpose : This map shows the distribution of Normal Monthly and Annual Rainfall of India in millimetres.

Method : The normal annual rainfall data in millimetres for all the meteorological stations of India are plotted and joined by isohyetal lines at suitable intervals. The spaces in between the isohyetal lines are shaded by blue colour of different depth to indicate high to low annual rainfall. For a few selected stations, the rainfall-graphs showing the monthly distribution of rainfall are drawn.

Salient Features : India enjoys pre-eminently a tropical monsoon climate. The areas of heaviest rainfall are the windward side of the Western Ghats, the southern slope of the Eastern Himalayas and the Khasi and Jaintia Hills. Rainfall in these areas is mainly orographic, but in the interior of the country, where the effect of the orography is very little, rainfall is due to variation of wind pressure. The distribution of annual rainfall within the sub-continent is strikingly uneven. The southern slope of the Khasi and Jaintia Hills region is one of the wettest regions in the world with a rainfall over 4,000 mms. annually, while the western most part of Rajasthan records a rainfall below 500 mms.

India gets 90 per cent of its annual rainfall by the South-West monsoon current which blows over the country from June to September. The Eastern part of the country gets rainfall from the monsoon current arriving from the Bay of Bengal, while the western part by the current from the Arabian Sea.

The Bay of Bengal monsoon current after being obstructed by the Arakan Yoma Hills and Shillong Plateau in the East and Himalayas in the North, causes copious rainfall in Assam, West Bengal and Bihar. It, then proceeds westward along Uttar Pradesh. Cherrapunji situated on the scarp of the Khasi Hills at an altitude of 1,313 metres above mean sea-level gets an annual rainfall of 10,869.2 mms. Mawsynram, a place 16 km. west of Cherrapunji gets still

heavier rainfall of 11,405.8 mms. due to its additional height of 87.8 metres over that of Cherrapunji.

The Arabian Sea monsoon causes heavy precipitation on the windward side of the Western Ghats. It becomes relatively dry after reaching the Deccan Plateau and central part of India which lie on its leeward side. But near the North-Eastern part of the Peninsular Plateau, it becomes again impregnated with moisture, after it meets the Bay of Bengal current. These two combined monsoon currents are responsible for heavy rainfall throughout the North-Eastern region.

The South-West monsoon begins to retreat from Northern India in the early part of October and it becomes complete by December. This retreat results in dry weather in the Northern India, but gives slight rainfall in the coastal districts of Southern Peninsula. The monthly rainfall-graphs for the Stations of Madras, Tiruchirapalli and Tirunelveli show that the maximum rainfall occurs in autumn and early winter between October and December. North-Western part of the country is another region which gets an appreciable amount of rain in winter months from frequent passage of winter depressions over it. This winter rain, though not heavy, is much beneficial for winter crops, such as, wheat, barley and pulses.

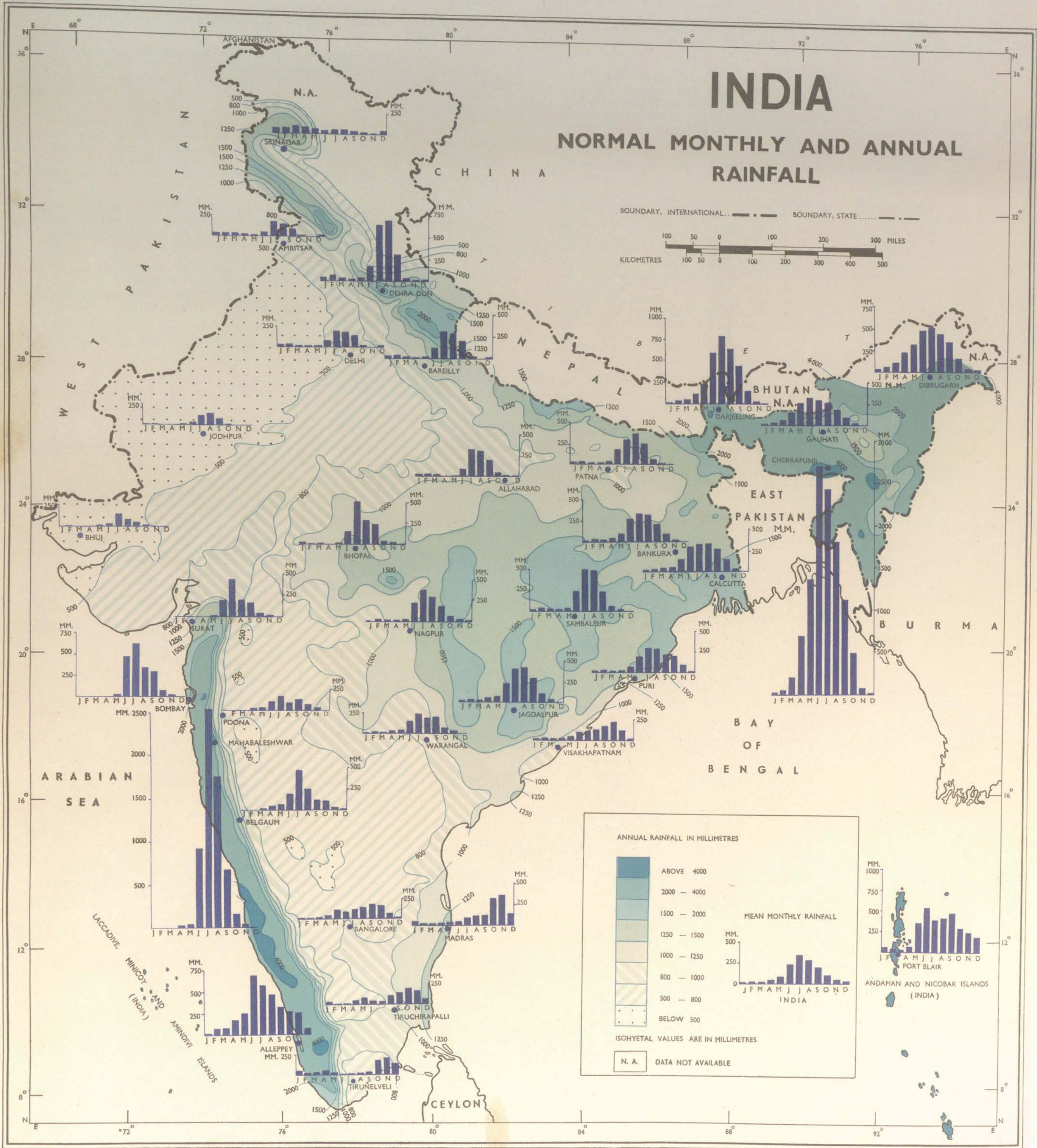
With the exception of the above two areas, January and February are the driest months for the entire country. The Bengal delta, Assam and East-coast plain get a few millimetres of rain in autumn in the wake of cyclonic storm and a few from thunder showers in spring. The monthly rainfall graphs show that everywhere except in South-Eastern coast and in North-Western Himalayas, the maximum rainfall is recorded either in June or July. The months of March, April and May are relatively dry.

The Table below gives Normal Monthly Rainfall in Selected Rain-Gauge Centres in various States in India, based on the available data for 50 years from 1901—50.

Normal Monthly Rainfall
(in Millimeters)

Sl. No.	State/District	Rain-Gauge Centre	No. of Years	January	February	March	April	May	June	July	August	September	October	November	December	Normal Annual Rainfall
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Andhra Pradesh																
1	Visakhapatnam	Waltair	50	10.4	21.6	11.2	18.5	48.3	100.8	112.0	121.2	168.1	212.1	112.8	17.3	954.3
2	Warangal	Hanamkonda	50	8.6	14.0	11.2	23.1	29.2	148.1	227.6	174.5	189.7	67.8	27.4	4.8	924.0
Assam																
3	Kamrup	Gauhati	49	9.9	25.7	53.1	148.8	253.5	317.5	292.9	263.7	176.3	75.7	13.5	3.6	1,634.2
4	Lakhimpur	Dibrugarh	50	36.6	59.7	103.9	231.1	322.1	494.0	537.0	450.6	359.7	155.7	29.7	16.3	2,796.4
5	United Khasi and Jaintia Hills	Cherrapunji	49	19.3	52.3	190.5	683.8	348.0	2,678.2	2,416.3	800.3	1,121.7	484.6	64.3	9.9	10,869.2
Bihar																
6	Patna	Patna	50	15.5	22.1	9.4	8.4	30.0	158.8	276.1	340.4	237.7	54.6	8.9	5.3	1,166.4
Gujarat																
7	Kutch	Bhuj	50	2.0	5.6	2.0	0.8	7.4	26.9	150.4	83.8	48.8	10.2	1.0	1.5	340.4
8	Surat	Surat	50	3.3	1.8	0.5	3.8	7.1	196.6	442.0	201.2	166.1	33.5	12.9	2.3	1,071.1
Jammu and Kashmir																
9	Srinagar	Srinagar	5	70.4	73.7	94.2	90.2	59.7	34.3	56.1	62.7	39.9	27.7	12.7	37.3	658.9
Kerala																
10	Alleppey	Alleppey	7	9.9	70.9	80.3	168.7	255.5	706.4	576.3	470.1	331.0	284.7	256.0	65.0	3,274.8
Madhya Pradesh																
11	Sehore	Bhopal	22	17.0	5.3	8.9	3.6	10.2	148.3	490.7	277.6	240.0	31.7	20.6	6.3	1,260.2
12	Bastar	Jagdalpur	41	9.9	22.6	14.0	49.5	60.5	232.7	384.6	391.4	261.4	110.0	30.0	3.8	1,570.4
Madras																
13	Madras	Meenambakkam	50	45.5	12.5	13.2	17.5	37.9	44.7	86.6	113.0	119.4	305.8	350.3	139.2	1,285.6
14	Tiruchirapalli	Tiruchirapalli	50	31.2	9.1	9.4	43.7	81.8	39.6	36.1	97.5	123.9	175.5	156.0	66.0	869.8
15	Tirunelveli	Palayamcottai	50	45.0	28.5	30.0	66.5	39.4	10.2	7.9	16.5	29.0	174.0	183.1	112.5	742.6
Maharashtra																
16	Gr. Bombay	Colaba	50	4.1	2.0	1.5	1.5	18.3	464.8	613.4	328.9	286.0	64.5	17.5	2.3	1,804.8
17	Poona	Poona	50	2.5	1.3	2.0	14.2	27.4	107.4	168.9	96.5	130.1	76.2	30.5	4.3	661.3
18	Nagpur	Nagpur	50	11.4	23.4	16.8	16.3	20.8	222.0	376.2	286.3	184.7	54.6	19.8	9.9	1,242.2
19	Satara	Mahabaleshwar	50	4.6	2.8	4.6	25.1	47.0	939.8	2,546.1	1,764.3	685.8	154.4	46.5	5.3	6,226.3
Mysore																
20	Belgaum	Belgaum	50	3.6	1.3	9.9	43.2	66.5	190.7	459.0	247.1	118.9	111.0	40.6	11.4	1,303.2
21	Bangalore	Bangalore	50	7.1	8.9	10.7	44.5	107.4	70.9	111.3	136.7	163.6	153.4	61.2	13.2	888.9
Orissa																
22	Sambalpur	Sambalpur	50	16.3	26.9	18.5	15.0	25.1	238.3	498.3	494.5	227.1	67.9	12.7	3.8	1,634.4
23	Puri	Puri	50	12.2	22.6	11.4	16.0	63.0	186.4	281.7	268.5	227.8	192.8	80.8	9.4	1,372.6
Punjab																
24	Amritsar	Amritsar	50	30.0	28.2	27.9	15.5	10.4	40.1	161.5	148.6	71.9	9.9	3.1	16.0	563.1
Rajasthan																
25	Jodhpur	Jodhpur	50	5.1	6.1	2.8	3.3	9.7	30.7	108.2	131.3	57.4	7.6	1.8	2.0	366.0
Uttar Pradesh																
26	Dehra Dun	Dehra Dun	50	57.9	66.8	37.9	19.6	35.8	184.4	655.6	713.0	304.5	41.9	7.6	24.9	2,149.9
27	Bareilly	Bareilly	50	24.4	27.7	12.7	8.1	15.2	114.3	318.5	289.8	193.8	34.8	4.1	9.1	1,052.5
28	Allahabad	Allahabad (Bamrauli)	50	17.0	21.3	9.7	5.3	7.1	80.3	307.6	293.1	182.6	40.4	8.6	7.1	980.1
West Bengal																
29	Darjeeling	Darjeeling	50	10.9	31.7	54.1	113.0	231.4	597.1	792.2	643.4	445.5	142.2	24.6	6.3	3,092.4
30	Bankura	Bankura	50	18.3	28.7	27.2	35.1	93.7	257.8	335.8	318.5	196.9	88.4	17.5	3.6	1,421.5
31	Calcutta	Alipore	50	11.9	27.9	34.0	50.5	133.9	290.1	331.2	334.0	252.7	127.3	27.2	4.1	1,624.8
Union Territories																
32	Delhi	New Delhi	50	20.8	23.6	12.9	9.7	9.7	67.6	186.2	169.9	134.9	14.2	2.0	8.6	660.1
33	Andaman and Nicobar Islands	Port Blair	47	48.3	33.0	30.3	68.8	349.5	527.3	378.7	402.1	468.4	286.0	231.7	171.5	2,994.5

Source : Memoirs of the India Meteorological Department—Monthly and Annual Normals of Rainfall and of Rainy Days (Based on Records from 1901—50)



RAINFALL RELIABILITY, 1901—50

Purpose : This map brings out the degree of reliability of annual rainfall in different parts of India with the help of the co-efficient of variability of annual rainfall for the period 1901—50.

Method : The co-efficient of variability of annual rainfall for fifty years from 1901—50 is calculated for each of the 275 meteorological stations by the formula $CV = \frac{Q}{M} \times 100$ where CV is the co-efficient of variability of annual rainfall, Q is the Standard Deviation and M is the Mean of the annual rainfall during 1901—50. The co-efficient of variability for each of the meteorological stations is plotted on the India map and isopleths (lines joining points of equal values) at an interval of 5 p.c. variability are drawn. Thus nine regions are delineated and shaded showing high to low degree of reliability which is inverse to the degree of variability.

Salient Features : This map reveals that the regions of heavy rainfall are the regions of lesser co-efficient of variability corresponding to greater reliability of annual rainfall and *vice versa*. The degree of reliability decreases as the rainfall diminishes. However, there are certain exceptions, such as, the East coast of Madras and Andhra Pradesh where the rainfall reliability is less though the annual rainfall is more than 1,000 mms. This may, perhaps, be due to the cyclonic disturbances in the wake of depressions originated in the Bay of Bengal during the retreating monsoon season. In a similar way the Upper Brahmaputra Valley also shows a high degree of variability in spite of its heavy rainfall. This part is subject to weather disturbances during pre-monsoon period in the wake of frequent invasions by Norwesters.

The regions of very high reliability of annual rainfall in the country are the Malabar region and North-Eastern India where precipitation is very heavy

(over 2,000 mms.) due to the alignment of their hill ranges across the path of the monsoon winds.

The areas around Mahabaleswar in the Ghat area of Maharashtra, Chotanagpur Plateau, Upper Narmada valley, Middle Mahanadi basin and Kashmir valley in the North of Pirpanjal range enjoy a high annual rainfall (over 1,250 mms.) and accordingly a low co-efficient of variability (15—20 p.c.) or high degree of reliability.

The co-efficient of variability (CV) increases to 20—25 p.c. in Konkan coast and the western fringe of Maharashtra and Mysore Plateau and Tamilnad Highlands. A similar CV is also visible in North-Eastern Peninsula, Northern Madhya Pradesh and Bihar, the hill districts of Uttar Pradesh, Punjab, Himachal Pradesh and Jammu and Kashmir, where the annual rainfall is between 1,000 and 1,250 mms.

The Western part of the Peninsular Plateau which is a rain-shadow region recording an annual rainfall of 500—800 mms. shows a medium co-efficient of variability 25—35 p.c. The relatively dry Punjab and Upper Ganga Plain also show a medium co-efficient of variability.

Gujarat and Rajasthan States record a maximum variability of annual rainfall ranging between 35 p.c. and 60 p.c. The degree of reliability of annual rainfall decreases gradually from East to West. The Kutch and Saurashtra and Thar area of Rajasthan Plain in the extreme Western part are the most unreliable rainfall regions in the country.

The table below shows an Index of degree of rainfall reliability for selected districts.

Index of Degree of Rainfall Reliability

Sl. No.	State/Union Territory/District	Rain-Gauge Station	Co-efficient of variability	Degree of Reliability
1	2	3	4	5
STATES				
1 Andhra Pradesh	Mahbubnagar	Mahbubnagar	26.31	Moderate
	Hyderabad	Begumpet	28.69	Slightly high
	Nellore	Nellore	29.84	Moderate
	Kurnool	Kurnool	25.81	Moderate
2 Assam	Kamrup	Gauhati	15.74	High
	Lakhimpur	Dibrugarh	15.12	High
	United Khasi & Jaintia Hills	Cherrapunji Police Station	19.92	High
3 Bihar	Patna	Patna	26.78	Moderate
	Gaya	Gaya	23.25	Slightly high
4 Gujarat	Bhavnagar	Mahuva	40.96	Very low
	Junagadh	Porbandar	67.06	Exceptionally low
	Kutch	Bhuj	62.30	Exceptionally low
	Rajkot	Rajkot	38.07	Low
	Bhavnagar	Bhavnagar	40.13	Very low
5 Jammu and Kashmir	Srinagar	Srinagar	20.23	Slightly high
	Jammu	Jammu	29.49	Moderate
6 Kerala	Alleppey	Alleppey	15.72	High
	Trivandrum	Trivandrum	19.66	High
	Kozhikode	Kozhikode	14.47	Very high
7 Madhya Pradesh	Bastar	Jagdalpur	22.31	Slightly high
	Indore	Indore	28.73	Moderate
	Raipur	Raipur	20.28	Slightly high
	Jabalpur	Jabalpur	20.44	Slightly high
	Madras	Madras	29.22	Moderate
8 Madras	Madurai	Madurai	24.74	Slightly high
	Salem	Salem	23.80	Slightly high
	North Arcot	Tirppattur	22.33	Slightly high
	Ratnagiri	Ratnagiri	22.78	Slightly high
9 Maharashtra	Nagpur	Nagpur	23.09	Slightly high
	Nanded	Nanded	29.20	Moderate
	Ahmednagar	Ahmednagar	34.04	Slightly low
	Buldhana	Buldhana	26.90	Moderate
	Mysore	Mysore	22.66	Slightly high
10 Mysore	Bangalore	Bangalore	21.57	Slightly high
	Belgaum	Belgaum	21.65	Slightly high
	Bijapur	Bijapur	30.20	Slightly low
11 Orissa	Bolangir	Bolangir	20.26	Slightly high
	Sambalpur	Sambalpur	19.80	High
	Cuttack	Cuttack	20.16	Slightly high
12 Punjab	Amritsar	Amritsar	32.25	Slightly low
	Ambala	Ambala	32.44	Slightly low
	Ludhiana	Ludhiana	33.55	Slightly low
	Jaisalmer	Jaisalmer	67.71	Exceptionally low
13 Rajasthan	Barmer	Barmer	57.88	Extremely low
	Jodhpur	Jodhpur	57.86	Extremely low
	Ajmer	Ajmer	42.82	Very low
	Dehra Dun	Dehra Dun	21.01	Slightly high
14 Uttar Pradesh	Naini Tal	Naini Tal	22.72	Slightly high
	Bareilly	Bareilly	28.38	Moderate
	Varanasi	Varanasi	23.04	Slightly high
	Sultanpur	Sultanpur	25.54	Moderate
	Kanpur	Kanpur	34.45	Slightly low
	Lucknow	Lucknow	31.06	Slightly low
	Darjeeling	Darjeeling	13.62	Very high
	Darjeeling	Kalimpong	14.10	Very high
15 West Bengal	Murshidabad	Bahrampur	20.92	Slightly high
	Burdwan	Asansol	19.54	High
	Burdwan	Burdwan	18.93	High
	24 Parganas	Alipore	17.33	High
	Purulia	Purulia	15.06	High
UNION TERRITORIES				
1 Delhi	Delhi	New Delhi	36.92	Low
2 Manipur	Manipur	Imphal	18.02	High
3 Tripura	Tripura	Agartala	25.21	Moderate

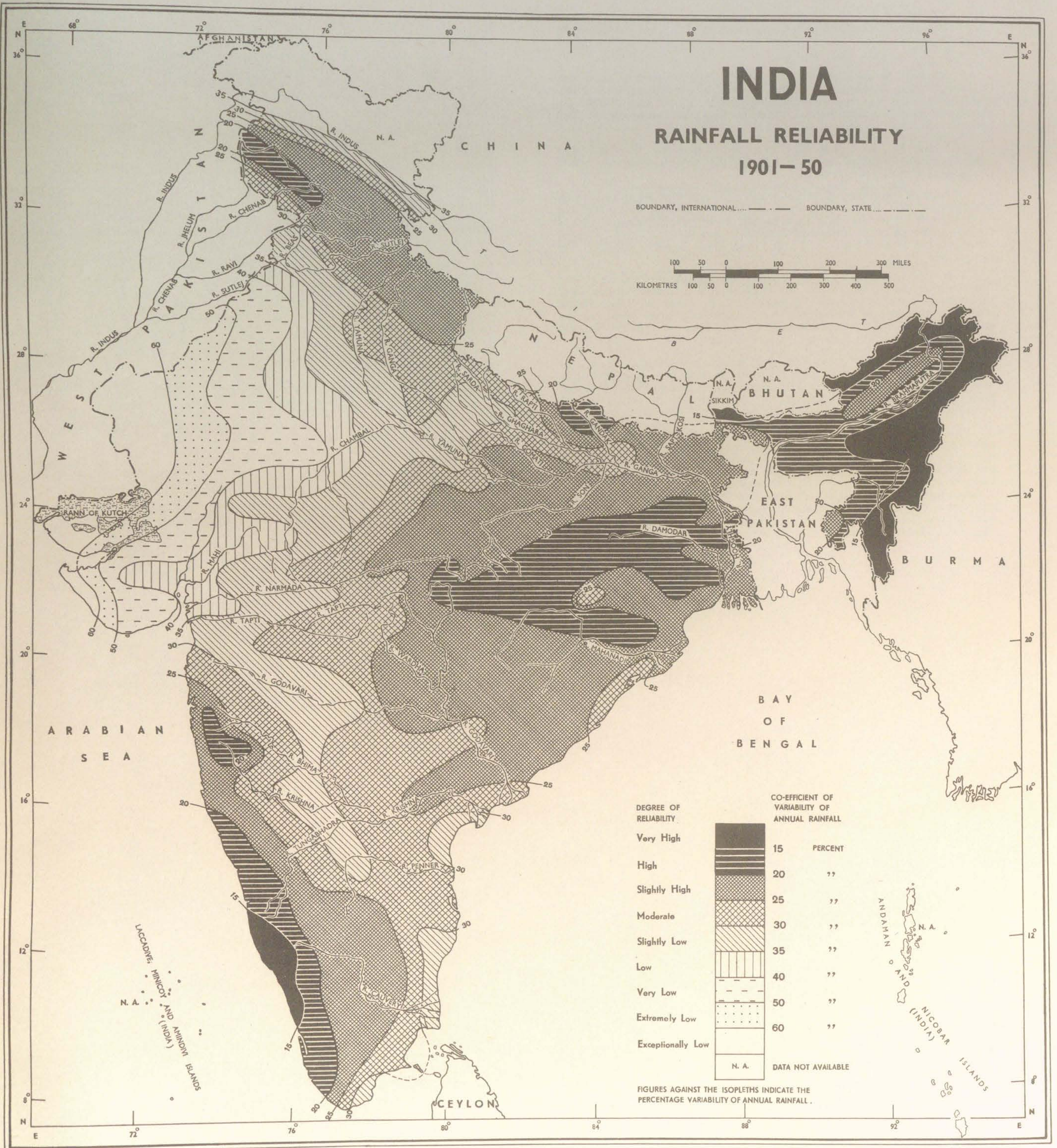
Source : Memoirs of the India Meteorological Department—Monthly and Annual Normals of Rainfall and of Rainy Days (Based on Records from 1901—50).

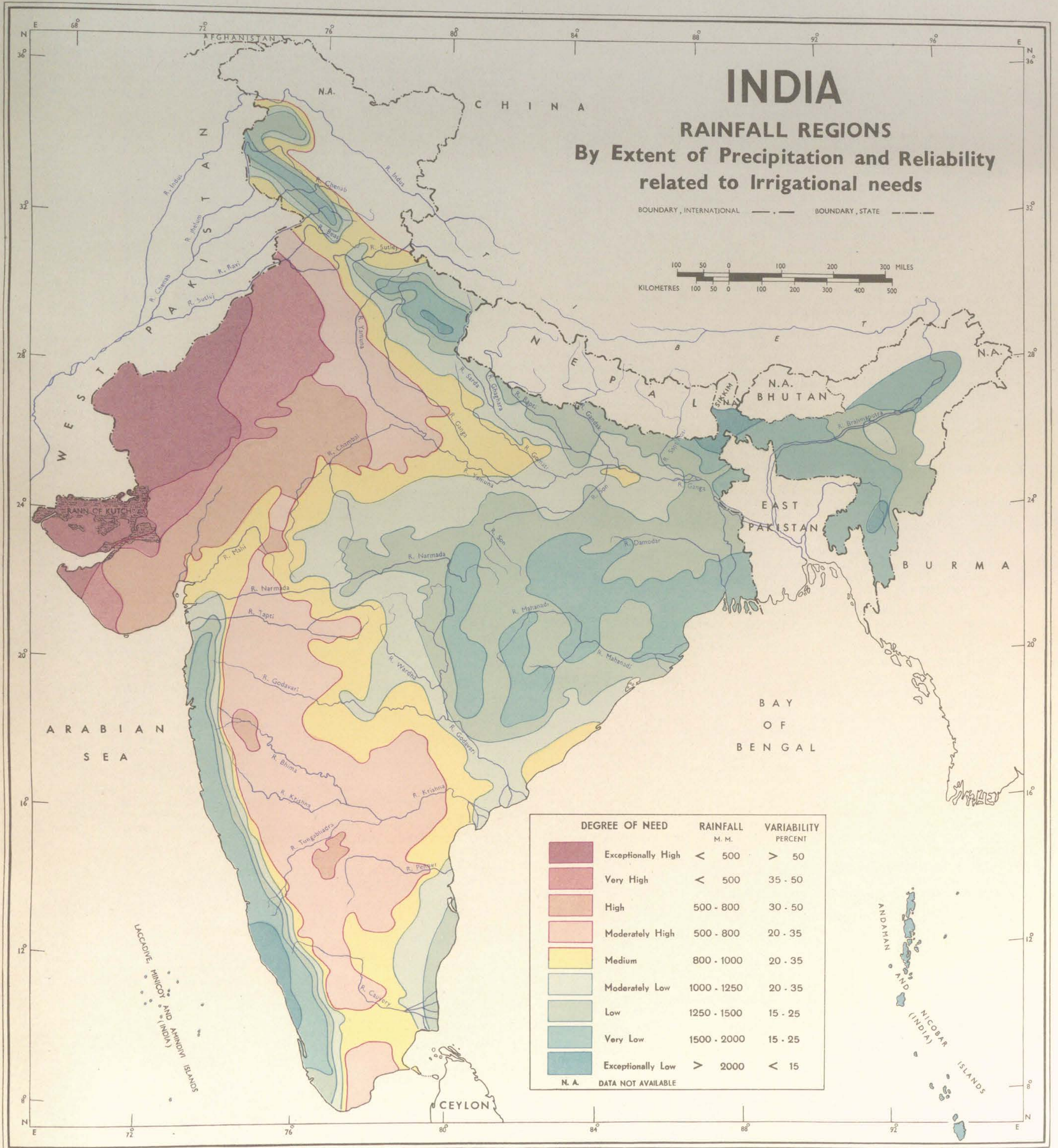
INDIA

RAINFALL RELIABILITY 1901-50

BOUNDARY, INTERNATIONAL BOUNDARY, STATE

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500





Purpose : This map displays the generalized classification of major and minor soil-groups in India.

Method : The soil-groups of India under generalised classification are—(1) Alluvial Soils; (2) Peat Soils; (3) Red Soils; (4) Black Soils; (5) Desert Soils and (6) Mountain and Hill Soils, Terai Soils. Under these six major groups there are fifteen sub-groups—six under alluvial soils, five under red soils, two under black soils and two under mountain and hill soils. Each of these sub-types is shown by a symbol as shown in the legend.

Salient Features : 1. *Alluvial Soils*—Alluvial soils occur in the great plains of North India, in the coastal plains and deltas as well as in the broad basins of the peninsular rivers. They show variations in colour, density, texture, porosity etc. from place to place. Six categories of alluvium are shown in this map—1.1) The newer alluvium nearer to the rivers and in deltas; 1.2) The newer alluvium along the coasts; 1.3) The older alluvium away from rivers; 1.4) The saline alluvium in the drier river basin; 1.5) The saline alluvium in the coastal region inundated by sea water and 1.6) Calcareous alluvium in the drier tracts. Alluvial soils are of greatest value agriculturally. In spite of minor differences from place to place, in general they are of light coloured loamy soils of high degree of productiveness except where there is a high degree of salinity or alkalinity. There are, however, a number of physical and organic factors which distinguish the character and peculiarity of soils and their fertility. The new alluvium is more productive than other sub groups of alluvial soils, because of its annual redressing by silts.

1.1—The new alluvium (riverine) occurs close to the banks of the rivers and in deltas which are flooded annually, such as in the Valley of Ganga and its tributaries, the flood-plain of Brahmaputra river, in Damodar valley and in the deltas of Godavari, Krishna and Cauvery. They produce a variety of crops including rice, wheat, tobacco and sugarcane.

1.2—The new alluviums (coastal) are formed along the sea-coasts comprising the States of Gujarat, Maharashtra, Mysore, Kerala, Madras, Andhra Pradesh, Orissa and the Union Territory of Goa, Daman and Diu. These soils are liable to invasion by sea-water and are occasionally saline. Texturally they vary from sandy to loamy sand and they are poor in plant nutrients. Either casuarina or coconut trees are found growing in this soil.

1.3—The old alluvium is distributed mainly in Northern, North-Western and North-Eastern parts of India including Punjab, north-western part of Delhi, Uttar Pradesh, Bihar, West Bengal and parts of Assam and Orissa. The old alluvium is old in a sense that it hardly gets redressed by alluviation because it occurs in the valley above the level of inundation. They are red coloured soils and are deficient in lime, phosphoric acid and humus. Mostly the soils vary from clayey to sandy loam in texture and generally acidic in reaction. Besides tea, the main crops grown on such soils are paddy, sugarcane, vegetables and fruits.

1.4—Saline alluvium (riverine) occurs in the drier tracts of the North especially of Uttar Pradesh and Punjab where saline and alkaline efflorescences are very common. Large areas once fertile and populous, have become impregnated with these salts known locally as *Reh* or *Kallar*, with highly deteriorating effects on their cultivation.

1.5—Saline alluvium (Coastal) occurs in the coastal districts of Midnapore and 24 Parganas in West Bengal, the three sea-board districts of Cuttack, Balasore and Puri in Orissa and the entire Kutch area in Gujarat. The soils are often invaded by the sea water. In West Bengal, these soils are of tidal origin and are next in importance to the alluvial tracts. Bunds or dykes are put to prevent the ingress of sea water and sluices are constructed not to allow the escape of rain water quickly, but gradually to use them for washing the salts from the soil. These soils, when reclaimed, are rich in plant nutrients and give a good yield of rice. The deposits are rich in calcium and magnesium. Coconut is the predominant crop of the saline alluvium along the coast.

1.6—The calcareous alluvium occurs mostly in the middle Ganga Plain embracing North Bihar and Eastern Uttar Pradesh. Within this Plain, Champaran, Muzaffarpur and Darbhanga districts of Bihar are significant for their highly calcareous soils.

2. *Peat Soils*—Peat soils originate in humid regions as a result of accumulation of large amounts of organic matter in the soils. Such soils occur in the Kerala State covering about 150 Square Kilometers of area around the backwaters of Cochin and Ernakulam. They also occur in the flood-plain of Kosi river. The soils of North Bihar are generally submerged under water during the monsoon. As soon as the rains cease, the soils are put under paddy cultivation.

3. *Red Soils*—Red soils form the largest soil group of India. They cover the Archaean basement of Peninsular India from Bundelkhand Plateau in the North to Cape Comorin in the extreme South, embracing the Western border of Bhagirathi delta in West Bengal, Orissa hills & Plateau, Eastern Part of Madhya Pradesh, Andhra Pradesh, Mysore, Madras and the hilly part of Kerala. The colour of this soil is generally red and it often grades into brown. Other than the true red soils, there are four sub-types grading into brown, chocolate, yellow and grey. They may be classified as follows :—

3.1—Red coloured soils are spread out in the Peninsular Plateau embracing Madhya Pradesh, a major part of Mysore State, South-Eastern part of Maharashtra, Madras, Andhra Pradesh, Goa, Orissa and Chotanagpur Plateau of Bihar. The red soil area extends further in the North and East embracing a major part of Santal Parganas district in Bihar, Birbhum district of West Bengal, Mirzapur, Jhansi and Hamirpur districts of Uttar Pradesh, Southern part of Assam and parts of Nagaland, Manipur and N.E.F.A. These

soils are poorer in lime, potash and iron oxide and uniformly low in phosphorous contents. They are generally poor in nitrogen, phosphorous and humus. Under irrigation they produce a large variety of crops.

3.2—The mixed red and black soils occur in Mysore, Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh. Red soils are light textured usually devoid of lime and free of carbonates. These soils produce a large variety of crops especially under irrigation. The black soils are less clayey than the red soils and are highly retentive on moisture.

3.3—The red and yellow soils are found in Madhya Pradesh, Rajasthan and Tripura. In Rajasthan, these soils are observed in the districts of Udaipur, Chitorgarh, Dungarpur, Banswara and Bhilwara. In Madhya Pradesh these soils mainly occupy Chhattisgarh Plain and most of the eastern districts of Bastar, Raipur, Durg, Bilaspur, Raigarh, Balaghat, Mandla, Shahdol and Surguja. The yellow colour is probably due to higher degree of hydration of ferric oxide than red soils. These soils are famous for rice cultivation because of its capacity to hold a good deal of moisture.

3.4—Red gravelly soils are found in Bihar, Madhya Pradesh and Maharashtra. In the districts of Ranchi and Palamau of Bihar, sometimes, they contain large amount of limestone and pebbles. Gram grows only when there is sufficient rainfall. Cotton and some inferior millets are also grown in this soil. It cannot produce crops continuously and requires to be left fallow once in two or twice in three years. In Maharashtra these soils are observed in Thana and Kolaba districts and also in the Western portion of Poona District.

3.5—Laterite and lateritic soils are found in patches in the States of Kerala, Orissa, West Bengal, Assam, Mysore, Maharashtra and Madras. These soils are generally poor in nitrogen, phosphate and potassium.

4. *Black Soils*—Black soils or *regur* soils originate from the basaltic rocks of the Lava Plateau. It covers the whole of Gujarat, Maharashtra and Western and Northern half of Madhya Pradesh States. Isolated patches of *regur*, though less typical, occur also in Madras State. 'The most characteristic black soils cap the Volcanic Plateau of Deccan Traps forming a mantle of rich residual soils of no great thickness or depth of profile.* Large tracts of transported black soils are also visible in the surrounding granite and gneissic areas.

Typical black soil or the familiar black cotton soil covers most part of Gujarat and Maharashtra States. Areas of *regur* or black soil are credited with fertility and do not require manuring for long periods but this is true only in case of thick *regur* soils. But some upland *regur* soils are not very productive. Thus *regur* soils undergo two sub-divisions—(i) deep black soil—very fertile and (ii) medium black soil—relatively poor.

4.1—Deep black soils are found in Gujarat in the districts of Surat, Broach and Baroda, in Madhya Pradesh covering the major part of Narmada valley and the levelled portion of Vindhyan and Satpura Plateaus especially in the districts of Hoshangabad and Narsimhapur. In Maharashtra these soils are mainly developed into alluvial materials along the courses of the rivers Tapi, Godavari, Bhima and Krishna. In Mysore, these are found mainly in the districts of Bijapur, Gulbarga, Bidar, Belgaum, Dharwar and Raichur. These soils are good for cotton, wheat, gram and linseed etc.

4.2—The medium black soils occur in the States of Madras, Mysore, Madhya Pradesh, Gujarat, Rajasthan, Andhra Pradesh and Maharashtra. In Madras the area under medium black soils is greater in Ramanathapuram and South Arcot districts. In Mysore State the medium black soils occur in the districts of Bidar, Gulbarga and Bijapur. In Madhya Pradesh, these soils cover the largest area embracing 19 districts which lie mainly in the northern side of Vindhyan range. In Gujarat, the medium black soils are found in the eastern portions of the districts of Sarbarkantha, Panchmahals, Baroda and also in parts of the districts of Jamnagar, Junagadh, Rajkot, Amreli and Bhavnagar. In Rajasthan these soils are found in the districts of Kota, Bundi and Jhalawar. In Andhra Pradesh they occur in some districts contiguous with the Maharashtra Plateau fully covered with black soils—medium or deep. These soils grow cotton, wheat, jowar, sugarcane and groundnut etc.

5. *Desert Soils*—Desert soils occur in the arid Western Rajasthan and Southern Punjab. These soils in depressed areas contain a high percentage of salts and are notably impervious and have impeded drainage.

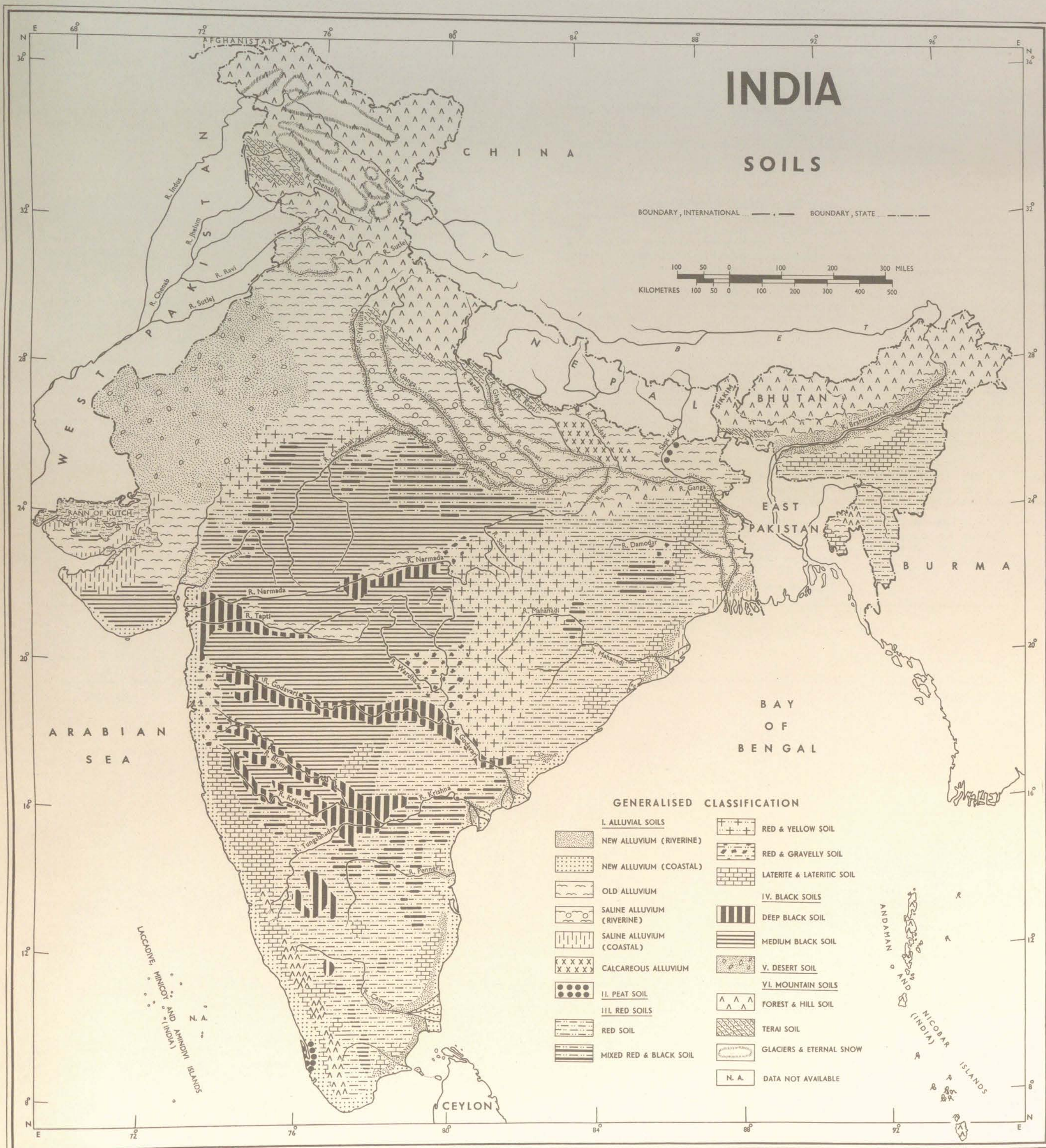
6. *Mountain and Hill Soils, Terai Soils*—They are found in the depressions within the mountains, in the valleys and basins and on the less steeply inclined slopes. Generally, it is the north-facing slopes of the Himalayan ranges which support a soil-cap of considerable thickness, while the southern faces of the mountains are too precipitous and exposed to the denuding agencies to be commonly covered with a thin cover of soils. However, there are two categories of soils—forest and hill soils and terai soils. Forest and hill soils are found in the Himalayas overlooking Punjab, Himachal Pradesh, Uttar Pradesh, West Bengal, Assam and the plateaus and hills of Madhya Pradesh, Orissa, Bihar, Tripura, Madras and Andaman and Nicobar Islands. These soils are rich in organic matter and nitrogen. Terai soils are found in the sub-montane tract of Himalayas in the states of Punjab, Uttar Pradesh, West Bengal and Assam. In Punjab these soils occur in Kangra district and in Uttar Pradesh these soils form a narrow belt at the foot of the Himalayas from Dehra Dun district to Deoria district. In West Bengal, these soils are brought by the mountain streams and deposited in the foot-hill region. They occupy a majority of rice growing areas of Jalpaiguri and Cooch Behar districts. Some of the wet Terai soils which have a high humus content, when cultivated make good tea soils such as in 'Dun' and Kangra valley, Darjeeling and Jalpaiguri districts and the foot-hill zone of Assam valley.

*Geology of India — by Dr. N. Wadia p. 516.

Source : 1. Geology of India - D. N. Wadia, London, Macmillan & Co. Ltd., 1961.
2. Soils of India - Roychaudhuri, S. P. & others, New Delhi, ICAR, 1963.

INDIA

SOILS



MAP 12

FORESTS

Purpose : This map shows the distribution of different types of forests in the country. Alongwith this map an inset graph in the right hand corner is drawn to show the trend in income in crores of rupees, from forestry at current price, from 1950-51 to 1960-61.

Method : The forests in India are divided into four major types—(i) Tropical Forests; (ii) Sub-tropical Forests; (iii) Montane Forests; and (iv) Sub-Alpine and Alpine Forests. These are further sub-divided into fourteen sub-types as explained in the legend of the map. Different numbers are used to categorise these fourteen types of forests.

Salient Features : Forests account for nearly one-fifth of the total geographical area of the country and their distribution is rather uneven. The fertile plain areas are almost bare of natural vegetation, while much of the hills and mountains are forested.

Tropical Forests : Tropical wet-evergreen forests flourish where rainfall is very high (over 2,000 mms.). Such regions are the West coast of the Peninsula and Eastern Sub-Himalayan tract embracing southern slope of North-East Frontier Agency, western part of Nagaland, north-eastern and southern parts of Assam. These forests support bamboo, veneer species and the famous iron-wood (*Xylia Dolabriformis* and *Mesua Ferrea*) used for construction work.

Tropical semi-evergreen forests are found in a belt parallel to the area of tropical wet-evergreen forests in the Assam valley, Mahanadi delta and the entire Ghat region. These forests include ebony, teak, rose-wood and iron-wood. They shed leaves for a very short period. Most of the trees yield high valued timber.

With the decrease in rainfall (over 1,000 mms.) the evergreen forests yield to tropical moist forests. In these forests the trees shed leaves in drier part of the year. They occupy the major part of Dandakarnaya, Mahanadi basin, northern part of Eastern Ghats, Chotanagpur Plateau, eastern part of Satpura range, Assam and eastern part of Manipur. Sal and bamboo are the most important species of trees in this region and the quality of bamboo varies according to drainage, soil and moisture conditions.

Tropical dry deciduous forests are found in the drier part of Tamilnad Upland, southern part of Eastern Ghats, south-western part of Maharashtra Plateau and Aravalli hills. Here the most important trees are sal, teak, simul and sissoo, which give hard and durable timber.

Tropical thorn-forests are common in Tamilnad Plains, Telangana Plateau, Karnataka Plateau, central Part of Maharashtra Plateau, Gir forest of Gujarat and northern part of Rajasthan Bagar. Here the rainfall varies from 500 mms. to 1,000 mms. The important species of trees is acacia. But in some

parts of the Karnataka and Tamilnad Plateaus Sandal-wood tree grows, which is the most precious and rare species of trees in the world.

Littoral and swamp forests are found in the heavy alluvial deposits near the coastal districts of Krishna, Guntur and Nellore of Andhra Pradesh and 24-Parganas district of West Bengal. Bamboo, mangrove and sundari are the predominant species of trees in the littoral areas of West Bengal. They are used as fuel and construction-timber.

Sub-tropical Forests : Sub-tropical dry evergreen forests flourish in the northern parts of Punjab, north-eastern part of Jammu & Kashmir and Himachal Pradesh where the rainfall is between 800—1,250 mms.

Sub-tropical broad-leaved hill forests are seen in Khasi and Jaintia Hills of Assam where rainfall is over 2,000 mms.

Sub-tropical pine forests are found in Jammu and Kashmir State, northern part of Himachal Pradesh, hill districts of Uttar Pradesh, North-East Frontier Agency, eastern part of Nagaland and southern part of Manipur. All these regions enjoy rainfall more than 1,000 mms.

Montane Forests : Montane Wet temperate forests are found in North-East Frontier Agency and northern part of Nagaland, where rainfall exceeds 2,000 mms.

Himalayan Moist temperate forests are located in Baramulla, Srinagar and Doda districts of Jammu and Kashmir, Chamba district of Himachal Pradesh, Kangra district of Punjab and Chamoli and Pithoragarh districts of Uttar Pradesh. In these regions the rainfall varies between 800—1,500 mms.

Himalayan Dry temperate forests are seen in the southern part of Ladakh district, eastern part of Doda district and northern part of Chamba district. Here the rainfall is below 800 mms.

Sub-Alpine and Alpine Forests : Sub-Alpine and Alpine forests are found in the northern part of Sikkim, North-East Frontier Agency, western part of Ladakh district and a long belt stretching from north-west to south-east of Jammu and Kashmir State.

Inset Graph : The graph shows the trend in income from forestry in crores of rupees at current prices from 1950-51 to 1960-61. Income from forestry shows a slight decline in 1952-53 and there is not much increase upto 1956-57. Since 1957-58 the income from forestry shows an accelerated progress till it reaches the peak level of 110 crores of rupees in 1960-61.

The table below gives total forest area and net revenue from forests in each State/Union Territory.

Proportion of Forest area to Total Geographical area and Net Revenue in each State/Union Territory, 1960-61

Sl. No.	State/Union Territory	Total Geographical Area* (in Sq. Kms.)	Total Forest Area* (in Sq. Kms.)	Percentage of Total Forest Area to Total Geographical Area	Net Revenue* (Rs. '000)
1	2	3	4	5	6
	INDIA	3,262,872**	689,551	21.1	334,010
	STATES				
1	Andhra Pradesh	274,674	64,185	23.4	19,780
2	Assam	219,888	45,600	20.7	3,985
3	Bihar	174,043	31,160	17.9	4,415
4	Gujarat (1959-60)	187,063	15,589	8.3	14,922
5	Jammu and Kashmir	222,802	20,793	9.3	28,550
6	Kerala	38,863	10,448	26.9	21,060
7	Madhya Pradesh	443,434	172,665	38.9	70,105
8	Madras	129,842	21,531	16.6	9,278
9	Maharashtra	307,539	67,811	22.0	26,695
10	Mysore	192,153	36,791	19.1	46,633
11	Orissa (1958-59)	155,820	65,915	42.3	19,806
12	Punjab	121,947	15,061	12.3	3,087
13	Rajasthan	342,268	39,420	11.5	(—) 437
14	Uttar Pradesh	293,846	41,469	14.1	46,286
15	West Bengal	87,874	11,779	13.4	3,989
	UNION TERRITORIES				
1	Andaman and Nicobar Islands	8,327	6,475	77.8	2,072
2	Delhi	1,484	41	2.8	(—) 169
3	Himachal Pradesh	28,176	10,443	37.0	14,005
4	Manipur	22,347	6,022	26.9	49
5	Tripura	10,453	6,353	60.8	(—) 101

* Figures given under this column have been compiled from Statistical Abstract of the Indian Union, 1965, published by Central Statistical Organisation, Govt. of India.

** Includes an area of 29 Sq. Kms. of Laccadive, Minicoy and Amindivi Islands.

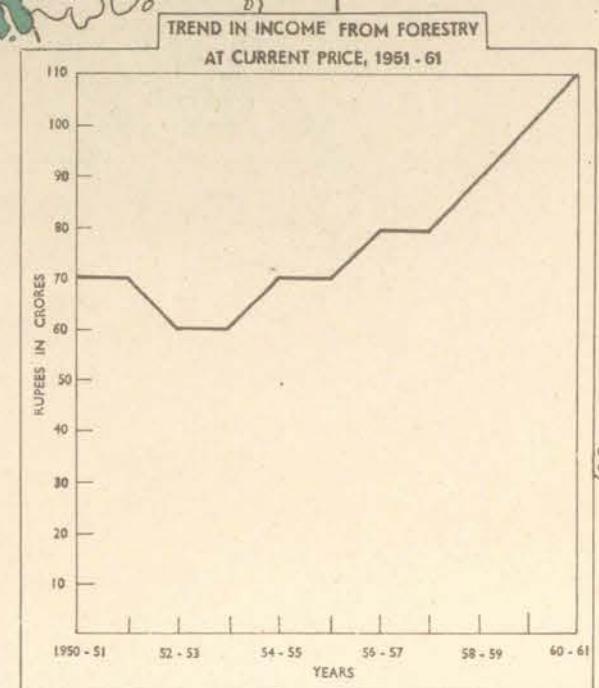
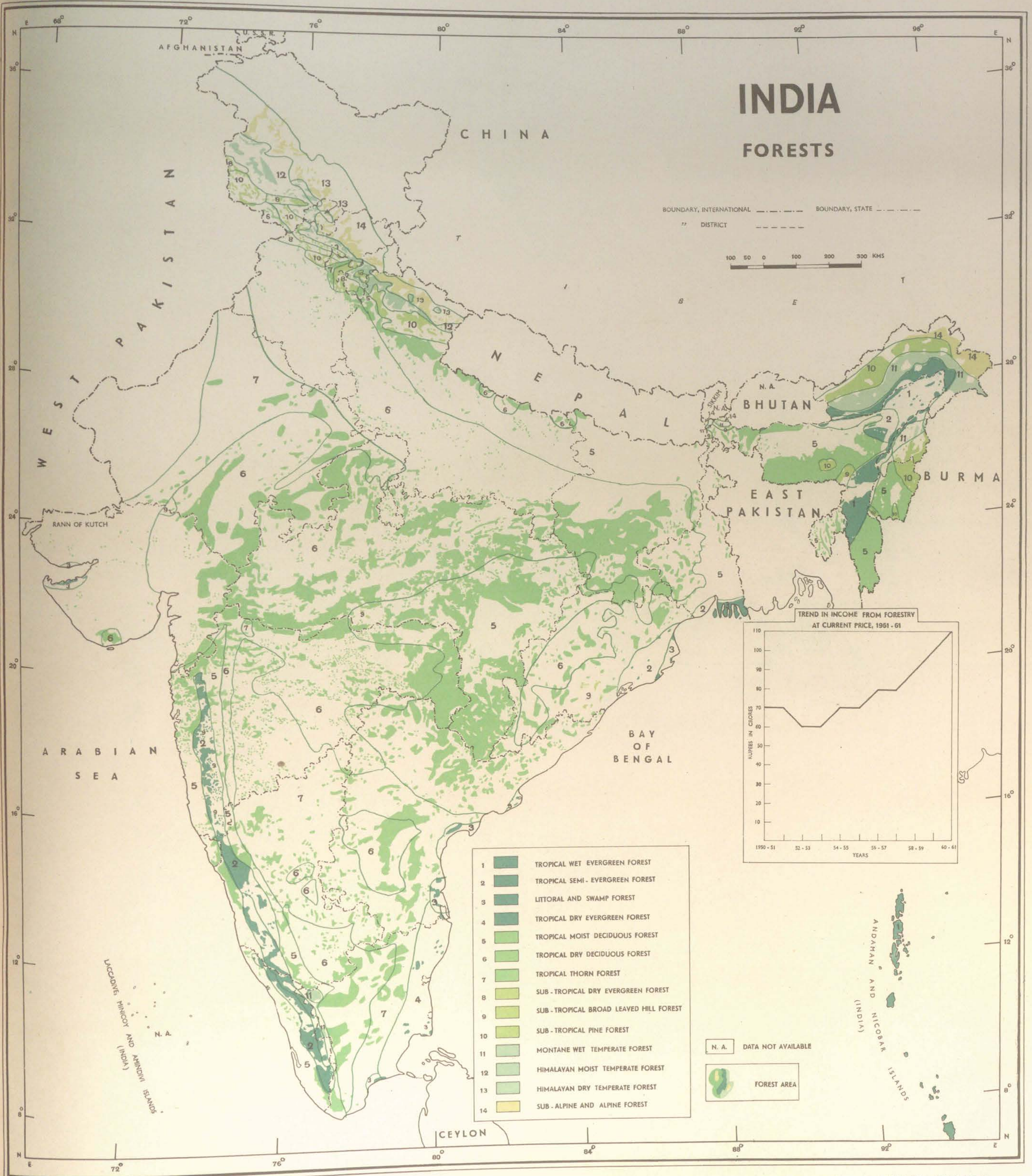
Source : 1 India and Pakistan—O.H.K. Spate, Methuen & Co. Ltd., 1954.
2 Indian Statistical Abstract, 1960-61.
3 Statistical Abstract of the Indian Union, 1965.

INDIA

FORESTS

BOUNDARY, INTERNATIONAL ——— BOUNDARY, STATE - - - - -
" DISTRICT - - - - -

100 50 0 100 200 300 KMS



N. A. DATA NOT AVAILABLE

FOREST AREA

Based on Forest Map of India, Silviculture Branch, F. R. I. & Colleges, Dehra Dun, July, 1967.

DEMOGRAPHIC STRUCTURE AND TRENDS

Distribution, Density, and Growth

MAP 13

DISTRIBUTION OF POPULATION, 1961

Purpose : The map shows the distribution pattern of rural and urban population of India for 1961.

Method : The rural population has been indicated by green dots, each representing 20,000 persons and urban population by spheres proportionate to the size of cities and towns as classified by 1961 Census. The definition of an Urban unit as adopted in 1961 Census is as follows :—

1. All municipalities, cantonments, notified areas and other places enjoying recognised local administration like civil lines ;
2. Other areas which satisfied the following criteria :—
 - (a) a population of not less than 5,000,
 - (b) a density of not less than 1,000 persons per sq. mile,
 - (c) at least three-fourth of the adult male population should be employed in pursuits other than agriculture.

Cities and towns according to 1961 Census definition fall into six categories, as under :—

- (i) Class I (100,000 and above)
- (ii) Class II (50,000—99,999)
- (iii) Class III (20,000—49,999)
- (iv) Class IV (10,000—19,999)
- (v) Class V (5,000— 9,999)
- (vi) Class VI (Below 5,000)

The Class I cities have been further divided into four types for depiction in this map as shown below :—

- (i) 4,000,000 and above
- (ii) 2,000,000—3,999,999
- (iii) 1,000,000—1,999,999
- (iv) 100,000—999,999

The dots and spheres are plotted against the density background shown by different colours as given in the index.

Salient Features : This map reveals that population in India is very uneven in distribution. Some parts swarm with population while others support a few. The flood-plains and deltas of the rivers are overflowed with the teeming millions, whereas rugged, inaccessible and forest-clad hills, ice-capped high mountains of the North and Rajasthan desert in the West show a very sparse distribution of population.

The rural population, as recorded in 1961 Census, is about 360 millions or 82.03 per cent of the country's total population. About 79 millions of population live in 2,700 cities and towns and they account for 17.97 per cent of

the country's total population. The table below shows population in each State with rural and urban break-up and number of cities/towns in each class of towns in 1961.

A glance at the map reveals the lopsided distribution of rural population. It is mainly concentrated along the major river valleys, coastal plains and deltas. The flat plains in the North and in littoral parts with a thick mantle of alluvium and their climatic conditions suitable for growing food and cash-crops favour a very heavy agglomeration of rural population. Districts showing a very heavy concentration of population virtually fall in one belt, which starts from the irrigated plains of Punjab descends the Ganga Valley, comes down the Eastern coast and ascends the Western coast upto the Gulf of Cambay. Distribution, however, gets thinner while ascending the plateau in the south. It gets thinner in the arid western part as well as in the forested eastern part. However, population density increases in its southern-most part and the densest agglomeration is noticed in the southern part of Karnafaka Plateau and Tamilnad Plateau.

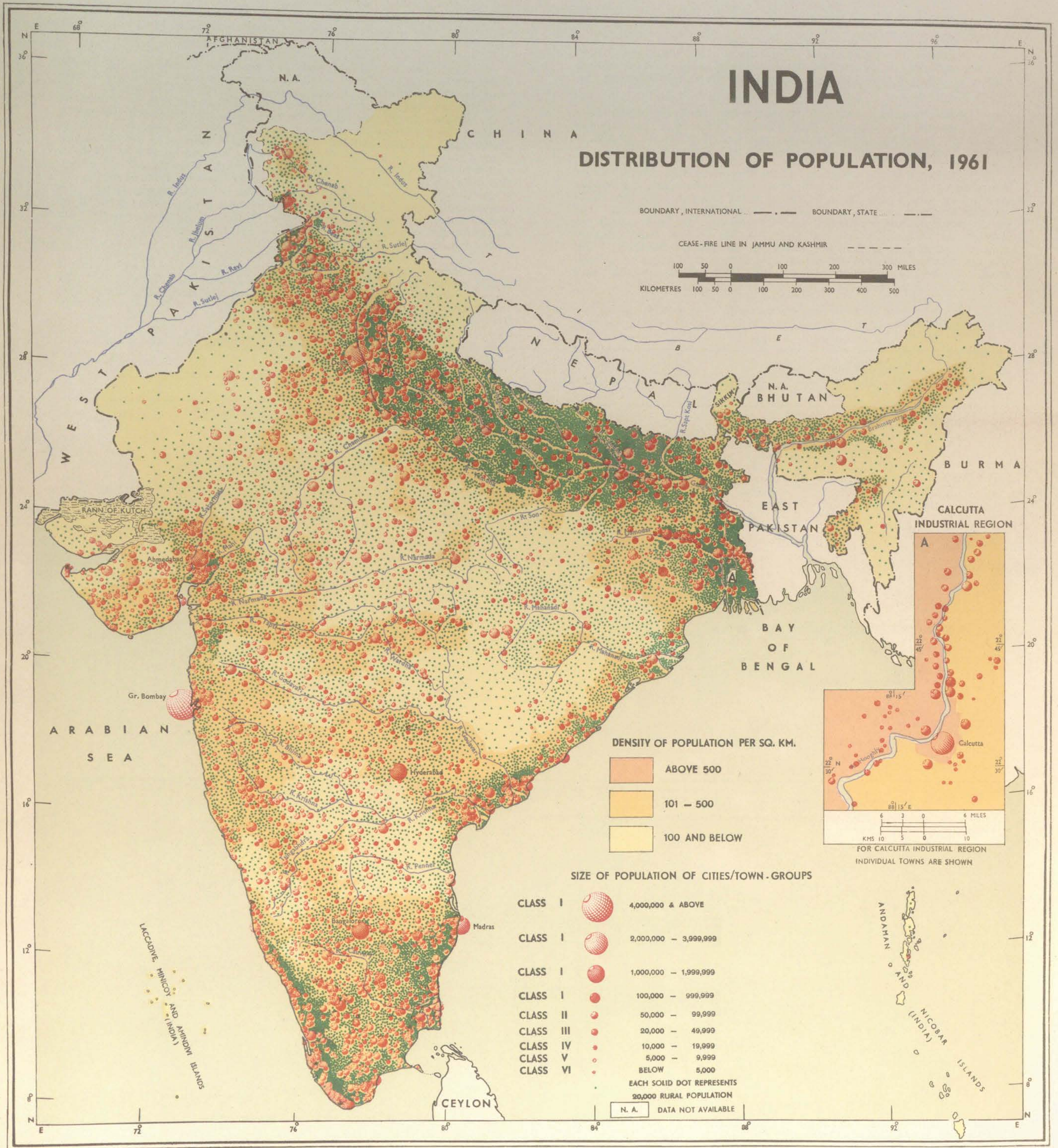
The country supports population in overwhelming numbers in rural areas to the tune of 82.03 per cent. Of the total urban population (78,936,603) nearly 1/4th is concentrated in seven metropolitan cities and industrial belts which are few in number. The biggest agglomerations of urban population are in Calcutta Industrial Region (6.12 million), Greater Bombay (4.15 million), Delhi Town Group (2.36 million), Madras Industrial Region (1.94 million), Hyderabad Town Group (1.25 million), Bangalore Metropolitan Area Town Group (1.21 million) and Ahmedabad Town Group (1.21 million). Other than the metropolitan areas, the industrial regions, such as, the Damodar Valley Region; Punjab plains and the Ganga-Yamuna *doab*; Ahmedabad-Surat Region; Bombay-Poona Region; Bombay-Nagpur Region; Godavari-Krishna deltas; the Kerala Coast and the Madurai-Coimbatore Region also support urban population. About 137 cities and towns lie in the agro-industrial belt of Punjab and Ganga-Yamuna *doab* area in Uttar Pradesh. Another strip of urban agglomeration, though not as dense as the former ones, is noticed in the cotton-growing tract of Maharashtra. About 68 urban centres of all sizes lie in a belt along the transport-line from Bombay to Nagpur. Urban population is also heavily concentrated in Tamilnad area as evident from the number of towns and cities huddled to be in a small triangular area with its apex at Ootacamund and the base along the coast from Pondicherry to Kanyakumari. There are two other areas—the littoral part of Kerala and Kolhapur-Belgaum-Shimoga Region where agglomeration of urban centres, mostly of small size, below 20,000 is quite significant. Other than these big clusters of urban centres, there are a number of urban nuclei scattered all over the country. It is worthy to note that some districts in the inaccessible mountainous regions and forested hills and plateaus are devoid of urban population.

Sl. No.	State/Union Territory	Population 1961		Total cities/towns	Class I cities				Class II	Class III	Class IV	Class V	Class VI
		Rural	Urban		(i)	(ii)	(iii)	(iv)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	INDIA	360,298,168	78,936,603	2,700	1	2	4	100	139	518	820	848	268
	STATES												
1	Andhra Pradesh	29,708,939	6,274,508	223	...	...	1	10	9	51	73	72	7
2	Assam	10,959,744	913,028	60	...	...	...	1	2	10	12	24	11
3	Bihar	42,541,690	3,913,920	153	...	...	...	7	7	33	52	46	8
4	Gujarat	15,316,726	5,316,624	181	...	...	1	5	9	43	54	60	9
5	Jammu and Kashmir	2,967,661	593,315	43	...	...	...	2	...	1	4	6	30
6	Kerala	14,349,574	2,554,141	92	...	...	...	4	5	31	33	18	1
7	Madhya Pradesh	27,745,174	4,627,234	219	...	...	...	6	6	35	57	98	17
8	Madras	24,696,425	8,990,528	339	...	...	1	8	19	61	119	95	36
9	Maharashtra	28,391,157	11,162,561	266	1	...	...	11	15	47	89	88	15
10	Mysore	18,320,279	5,266,493	231	...	...	...	...	9	...	...	...	...
11	Orissa	16,439,196	1,109,650	62	...	...	1	5	9	34	81	64	37
12	Punjab	16,218,217	4,088,595	189	...	...	...	1	3	8	22	25	3
13	Rajasthan	16,874,124	3,281,478	145	...	...	...	5	12	35	40	54	43
14	Uttar Pradesh	64,266,506	9,479,895	267	...	...	...	6	4	23	52	51	9
15	West Bengal	26,385,437	8,540,842	184	...	1	...	11	19	46	45	50	12
	UNION TERRITORIES AND OTHER AREAS												
1	Andaman and Nicobar Islands	49,473	14,075	1	...	...	...	...	...	...	1	...	...
2	Delhi	299,204	2,359,408	3	...	1	...	1	...	1	...	...	...
3	Himachal Pradesh	1,287,216	63,928	13	...	...	...	...	...	...	2	4	7
4	Laccadive, Minicoy and Amindivi Islands	24,108	...	...	...	...	...	...	...	...	...	...	...
5	Manipur	712,320	67,717	1	...	...	...	...	1	...	...	...	...
6	Tripura	1,039,008	102,997	6	...	...	...	...	1	...	1	4	...
7	Dadra and Nagar Haveli	57,963	...	...	...	...	...	...	...	...	...	...	...
8	Goa, Daman and Diu	526,003	100,664	13	...	...	...	...	...	...	...	...	...
9	Pondicherry	280,082	88,997	5	...	...	...	...	...	1	1	4	7
10	North-East Frontier Agency	336,558	...	...	...	...	...	...	...	2	1	2	...
11	Nagaland	350,043	19,157	3	...	...	...	...	...	...	...	...	...
12	Sikkim	155,341	6,848	1	...	...	...	...	...	...	...	3	...
												1	...

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

DISTRIBUTION OF POPULATION, 1961



DENSITY OF POPULATION, 1961

Purpose : This map depicts the regional variation in density of population per sq. km. in India as in 1961.

Method : Density figures for 335 districts of the country and Sikkim have been grouped into six categories as shown in the index. The districts are hatched according to these groupings from deep to light shades indicating high to low density.

Salient Features : This map reveals that the density of population is strikingly uneven in the country. Though the overall density of population in India is 138 persons per sq. km., but some parts record a density as high as 800 persons per sq. km., and some others as low as 1 person per sq. km.

Population density is startling in the Northern Plains. A continuous belt of high density (201—500 persons per sq. km.) stretches from North Punjab plain through the Ganga plain embracing Uttar Pradesh and North Bihar down to Bhagirathi and Mahanadi deltas in West Bengal and Orissa. The density becomes exorbitantly high (above 800 persons per sq. km.) around the metropolises, such as, Calcutta and Delhi. A few pockets with a density above 500 persons per sq. km. are visible in the crowded Northern Plain. They are mostly commercial and industrial centres and overpopulated rural tracts. The density gets thinner while ascending up the plateaus in the South and hills in the North and East.

By contrast with the Northern Plain showing a very high density, the Southern peninsula other than Kerala and Madras States exhibits either a

medium or low density in most of its parts. The districts of the States of Kerala and Madras except Ramanathapuram and Nilgiri show a high (201—500) or very high (> 500) density.

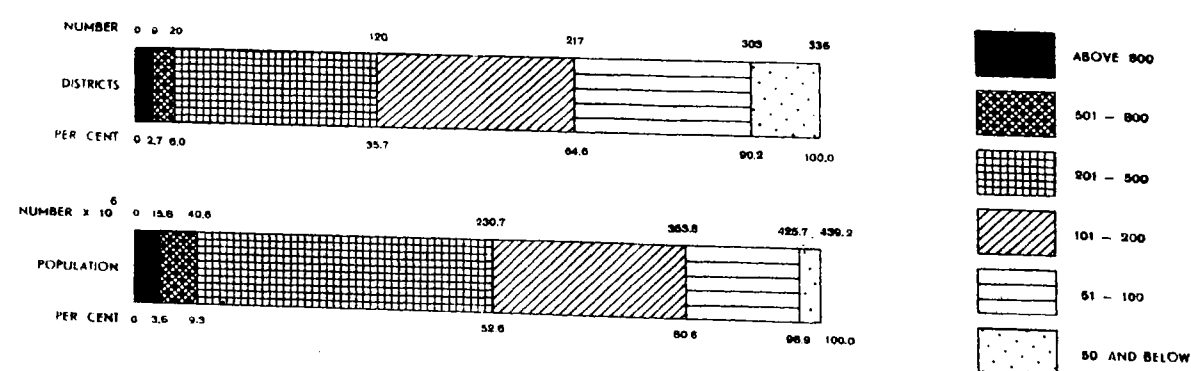
Density nearer to the National Average (138 persons per sq. km.) is visible in a long ribbon of land in the immediate south of the crowded Northern Plain. Another massive area of moderate density i.e. 101—200 person per sq. km is visible along the west coast of Maharashtra and Gujarat with two offshoots in the interior—one towards Nagpur Plain and the other towards Telangana Plateau. There are two more dispersed strips of medium density—one along the Brahmaputra valley and the other through the heart of the Karnataka Plateau. Low density of 51—100 persons per sq. km. is seen over an extensive area in Madhya Pradesh and Rajasthan. From the Aravalli hills to Orissa hills the whole of Madhya Pradesh and the western part of Orissa State record a low density. There are three more pockets of low density lying in the southern part of the Peninsula. The largest one lies in Karnataka Plateau of Mysore and Rayalaseema Plateau of Andhra Pradesh. The other two pockets are the forested area in Mysore State and the Ajanta hills in the Central Maharashtra Plateau.

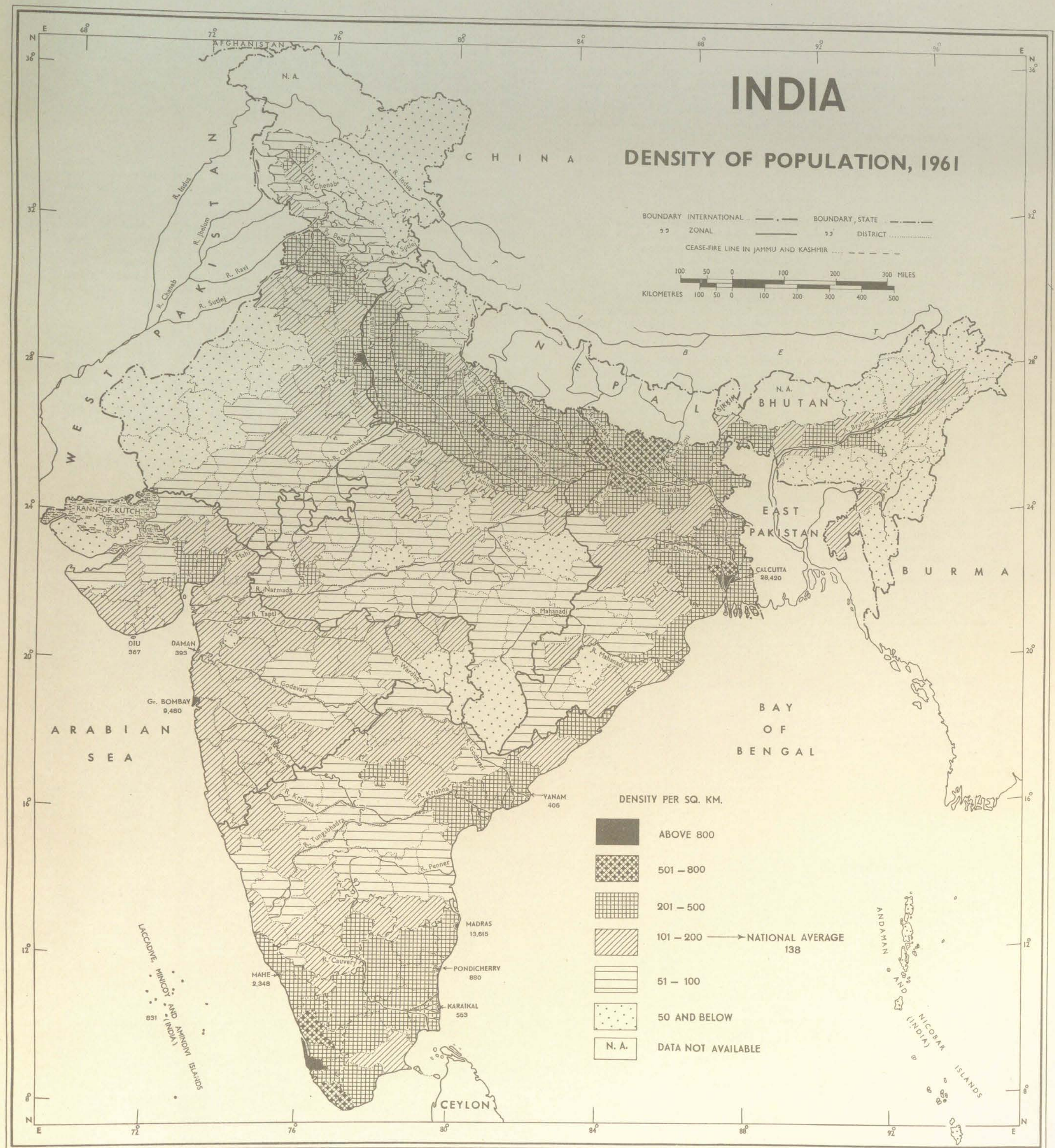
Density is significantly low in the areas of inhospitable climate and rugged topography such as, Rajasthan desert, Ladakh hills, North-East Frontier Agency, Nagaland, Manipur, Garo Hills, United Khasi & Jaintia Hills, United Mikir & North Cachar Hills, Mizo Hills and Bastar Plateau. They show a density below 51 persons per sq. km.

Sl. No.	State/Union Territory	Area in Sq. Km.	Population 1961	Density per Sq. Km.
1	2	3	4	5
	INDIA	3,181,561	439,234,771	138
	STATES			
1	Andhra Pradesh	274,675	35,983,447	131
2	Assam	122,396	11,872,772	97
3	Bihar	173,364	46,455,610	268
4	Gujarat	184,034	20,633,350	112
5	Jammu and Kashmir	138,992	3,560,976	26
6	Kerala	38,857	16,903,715	435
7	Madhya Pradesh	437,820	32,372,408	74
8	Madras	129,900	33,686,953	259
9	Maharashtra	306,345	39,553,718	129
10	Mysore	191,262	23,586,772	123
11	Orissa	155,845	17,548,846	113
12	Punjab	122,518	20,306,812	166
13	Rajasthan	341,595	20,155,602	59
14	Uttar Pradesh	294,947	73,746,401	250
15	West Bengal	88,562	34,926,279	394
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	8,327	63,548	8
2	Delhi	1,484	2,658,612	1,792
3	Himachal Pradesh	27,719	1,351,144	49
4	Laccadive, Minicoy and Amindivi Islands	29	24,108	831
5	Manipur	22,347	780,037	35
6	Tripura	10,661	1,142,005	107
7	Dadra and Nagar Haveli	496	57,963*	117
8	Goa, Daman and Diu	3,706	626,667*	169
9	Pondicherry	469	369,079	787
10	North-East Frontier Agency	81,424	336,558	4
11	Nagaland	16,488	369,200	22
12	SIKKIM	7,299	162,189	22

Note :—The area figures shown above are supplied by the State Survey Department except for Jammu & Kashmir, Andaman and Nicobar Islands and North-East Frontier Agency for which area figures have been furnished by Surveyor General of India. The area figures in respect of Jammu and Kashmir relate to censused area only.
* The population figures of Goa, Daman and Diu and Dadra and Nagar Haveli relate to 1960 and 1962 respectively.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.





CHANGING PATTERN OF DENSITY OF POPULATION, 1951—61

Purpose : The twin maps on 'Density of Population' for 1951 and 1961 bring out the changing pattern in density of population in India during the period 1951—61.

Method : For both the maps the districtwise density figures per sq. km. are calculated and grouped into seven categories—four above, one nearer to and two below the National Average as shown in the index. The first four groups are above the National Average (117 persons per sq. km. in 1951 and 138 persons per sq. km. in 1961) and the last two are below the National Average. Districts are then hatched from deep to light shades.

Salient Features : The overall density of population in India increased from 117 persons per sq. km. in 1951 to 138 persons in 1961. Thus within a decade, India faced an increase of 21 persons per sq. km. and the number of districts with very high density increased by 27.

In 1951, 65 districts showed a very high density (above 250 persons per sq. km.). They are found exclusively in the northern plain, Hooghly basin and in the coastal plains in the South. In 1961, another 27 districts rose to the rank of very high density which are contiguous with 65 districts of very high density in 1951. A few districts showing very high density are scattered in the central part of Peninsular India which rose to this rank during 1961. These are the Cuttack district of Orissa, West Godavari and Hyderabad districts of Andhra Pradesh and Kaira district of Gujarat State. This sharp increase in the density of population in these districts may be attributed partly to natural increase and partly to immigration.

The districts falling under the next rank of high density (151—250 persons per sq. km.) hardly form any continuous belt. In 1951 they were confined mainly to north-western and eastern parts of the Northern Plain, Tamilnad region, eastern coast of Peninsular India and Gujarat Plain. In 1961, the number of such districts is reduced in Tamilnad region and Ganga Plain because some of them rose to the rank of very high density, while in Punjab Plain and in the east coast the number of such districts increased due to the addition of some more districts which changed their ranks from moderate to high in a decade.

The districts showing moderate density also increased in number during 1951—61 in the wake of some changes in density pattern of the districts showing low density in 1951. The density map of 1951 shows six distinct areas of moderate density. They are—southern Punjab and its contiguous districts of north-eastern Rajasthan, southern Bihar, the valleys of Wardha and Godavari rivers, southern Karnataka plateau and eastern Maharashtra plateau. All these regions of moderate density expanded their stretches in 1961. Thus the two

big belts of moderate density came into existence in 1961—one parallel to Northern Plain from Punjab to Bihar and the other in Peninsular India embracing a major part of Telangana and Maharashtra Plateaus and a strip through the heart of Karnataka Plateau. In the north-eastern region only two districts in the Assam Valley—Goalpara and Darrang showed moderate density in 1951, but in 1961 two more areas of moderate density sprang up i.e. the district of Lakhimpur in Upper Assam Valley and the Union Territory of Tripura. Both the areas rose from low density in 1951 to the rank of moderate density in 1961.

In 1951, an overwhelming proportion of the country showed a low density of population. The main areas of low density, as seen in the map of 1951, are the hill districts of Uttar Pradesh, Punjab, Himachal Pradesh and Jammu and Kashmir; the Central Plateau embracing the eastern half of Rajasthan, Madhya Pradesh, north-eastern Maharashtra, northern part of Orissa, Karnataka Plateau and promontory of Kathiawar. These areas form one compact unit of low density with some breaks at pockets of moderate and very low density. In 1961, the low density areas of Central Peninsula have undergone considerable changes specially in the States of Gujarat and Maharashtra where districts with low density in number rose to the rank of moderate density. The same changing pattern is visible in the Bundelkhand region of Uttar Pradesh. The hill districts of low density in north-western part of the country remained conspicuously constant during this decade.

The areas of very low density mostly appear in the economically depressed regions, such as, desert area of Rajasthan, forested hills and plateaus in Madhya Pradesh, Orissa and Maharashtra, the Kumaun and Punjab Himalayas, the eastern Himalayas, the hills and plateaus in the north-east excluding the Union Territory of Tripura and Cachar district of Assam. The total number of districts with a very low density decreased from 46 in 1951 to 31 in 1961. The decrease in number of districts with low density during the last decade was visible only in the Central Plateau, while the hills and arid plateaus of the country showing low density remained stagnant during this decade.

The above analysis explores that the areas of very high density have undergone drastic changes in the form of expansion during the intercensal period of 1951—61. They expanded more in Ganga Plain embracing the States of Uttar Pradesh and Bihar. The pattern of density has also changed considerably in the Deccan Trap region where a large number of districts with low density came under high and moderate density in 1961. The areas with inhospitable climate and rugged terrain, showed density of population stationary in spite of a high rate of population-growth in the country. They are still the sparsely populated parts in the country.

Sl. No.	State/Union Territory	Area in Sq. Km.	Population 1951	Population 1961	Density 1951	Density 1961		
1	2	3	4	5	6	7		
INDIA 3,181,561 361,088,090 439,234,771 117* 138								
STATES								
1	Andhra Pradesh	...	...	274,675	31,115,259	35,983,447	113	131
2	Assam	...	...	122,396	8,830,732	11,872,772	72	97
3	Bihar	...	...	173,364	38,786,184	46,455,610	224	268
4	Gujarat	...	...	184,034	16,262,657	20,633,350	88	112
5	Jammu and Kashmir	...	...	138,992	3,253,852**	3,560,976	23	26
6	Kerala	...	...	38,857	13,549,118	16,903,715	349	435
7	Madhya Pradesh	...	...	437,820	26,071,637	32,372,408	60	74
8	Madras	...	...	129,900	30,119,047	33,686,953	232	259
9	Maharashtra	...	...	306,345	32,002,564	39,553,718	104	129
10	Mysore	...	...	191,262	19,401,956	23,586,772	101	123
11	Orissa	...	...	155,845	14,645,946	17,548,846	94	113
12	Punjab	...	...	122,518	16,134,890	20,306,812	132	166
13	Rajasthan	...	...	341,596	15,970,774	20,155,602	47	59
14	Uttar Pradesh	...	...	294,947	63,215,742	73,746,401	214	250
15	West Bengal	...	...	88,562	26,299,980	34,926,279	297	394
UNION TERRITORIES AND OTHER AREAS								
1	Andaman and Nicobar Islands	...	...	8,327	30,971	63,548	4	8
2	Delhi	...	...	1,484	1,744,072	2,658,612	1,175	1,792
3	Himachal Pradesh	...	...	27,719	1,109,466	1,351,144	40	49
4	Laccadive, Minicoy and Amindivi Islands	...	...	29	21,035	24,108	725	831
5	Manipur	...	...	22,347	577,635	780,037	26	35
6	Tripura	...	...	10,661	639,029	1,142,005	60	107
7	Dadra and Nagar Haveli	...	...	496	41,532†	57,963‡	84	117
8	Goa, Daman and Diu	...	...	3,706	596,059†	626,667‡	161	169
9	Pondicherry	...	...	469	317,253@	369,079	676	787
10	North-East Frontier Agency	...	...	81,424	N.A.	336,558	—	4
11	Nagaland	...	...	16,488	212,975	369,200	19‡	22
12	Sikkim	...	...	7,299	137,725	162,189	19	22

Note :—The area figures shown above are supplied by the State Survey Department except for Jammu and Kashmir, Andaman and Nicobar Islands and North-East Frontier Agency for which area figures have been furnished by Surveyor General of India. The area figures in respect of Jammu and Kashmir relate to censused area only.

* National Average for 1951 has been calculated after excluding the 1951 area and population figures of North-East Frontier Agency and Tuensang district of Nagaland.

** The Population of Jammu and Kashmir for 1951 has been taken as the Arithmetic mean of 1941 and 1961 population.

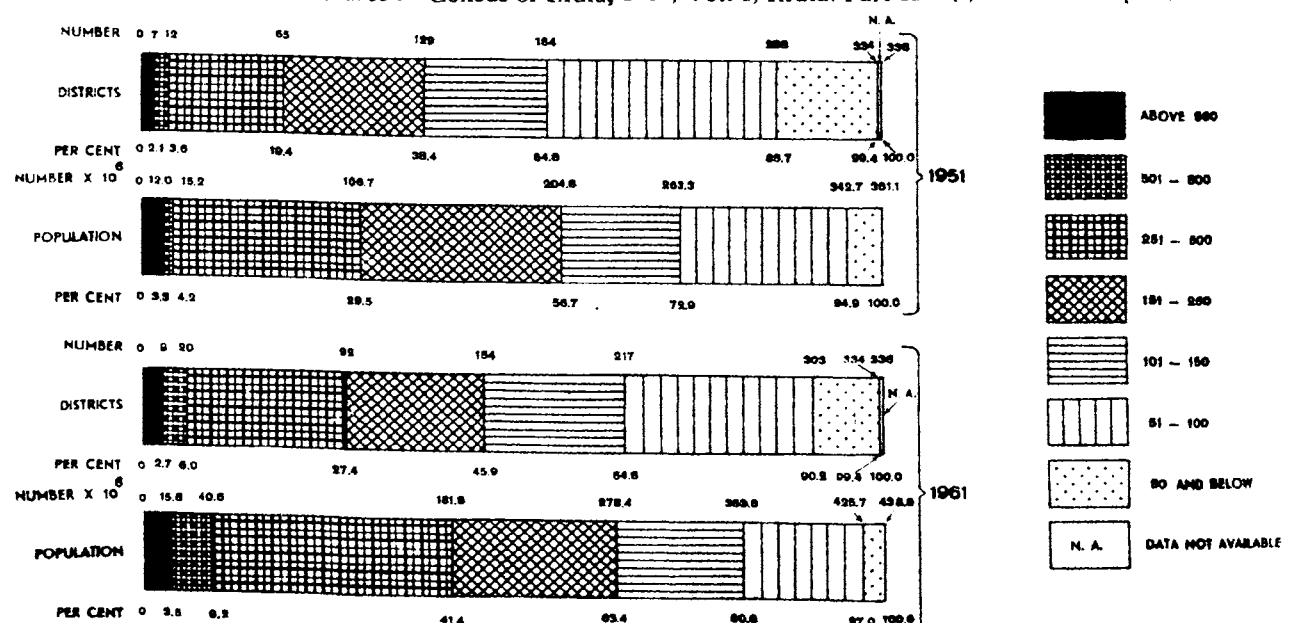
† The population figures of Dadra and Nagar Haveli and Goa, Daman and Diu relate to 1962 and 1960 respectively.

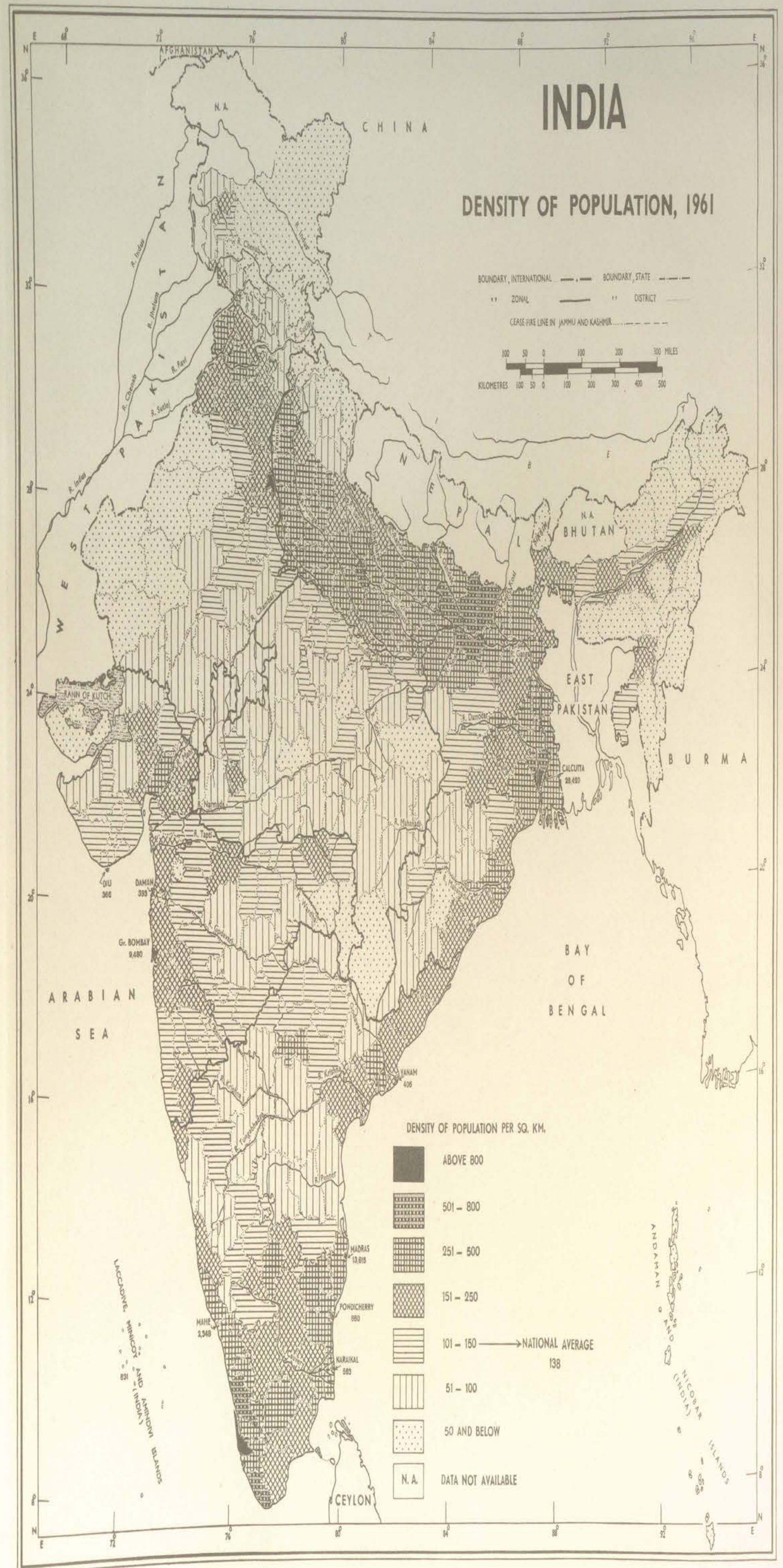
‡ The population figures of Dadra and Nagar Haveli and those of Goa, Daman and Diu relate to 1950.

@ The population figures of Pondicherry relate to 1948.

£ Density of 1951 for Nagaland has been calculated after excluding 1951 area and population figures of Tuensang district.

Source : Census of India, 1961, Vol. I, India. Part II-A(i)—General Population Tables.





INTERCENSAL CHANGES IN POPULATION, 1901—21

Purpose : This map depicts the intercensal changes in population in India during the period 1901—21.

Method : The percentage gain or loss of population in each district for the decades 1901—21 is shown by choropleth method. The data are grouped into five categories, three on the increase side and two on the decrease side with reference to the National Average (+5.42%).

Salient Features : The year 1921 marks a distinct dividing line in the trend of population growth in the country, the decades prior to 1921 showing a poor growth or even loss in population. The rate of population growth in the country during 1901—21 covering two decades was +5.42% or +0.27% per annum. During the first decade, 1901—11 the percentage rate of change was +5.75 while that for the decade 1911—21 was (-) 0.31. This low growth-rate of population during these two decades may be explained by natural catastrophies like drought, famine and epidemics which took a heavy toll of life.

About two-thirds of the country has shown a strikingly high loss of population during these years. These losses are marked in four distinct areas—i) a continuous belt from the Ganga plain down to Mahanadi delta; ii) part of Rajasthan desert plain; iii) Punjab plain; iv) the Upper Godavari, Krishna and Tungabhadra basins in Maharashtra and Karnataka Plateaus. During these decades the loss of population in some parts was more than 10%.

This decrease of population over such a vast tract may be attributed to a number of causes. In the years 1901—11 drought, epidemics of plague and malaria decimated a large proportion of population living in these areas. There was also some decrease in population in some parts in the wake of migration. About 1.25 millions of population emigrated from the Ganga Plain to other parts of the country during the decade 1901—11. The reported mortality from plague in 1901 was 2.5 million persons. In 1907 about 1.3 millions and in 1908 about 2 millions of population were decimated by malaria. In the succeeding decade 1911—21, the virulence of influenza wiped off a large number of persons from these areas.

Now turning to the increase side, it is observed that only 38 districts out of 336 (including Sikkim) supporting about 11.31% of the country's population recorded a very high growth-rate (over 30%), during these two decades. The reasons for this high growth of population in these few selected districts

are many and varied.

In districts like Dhanbad, mining and quarrying industry played a decisive role in attracting men from surrounding areas, whereas in Brahmaputra valley of Assam, tea plantation industry and the opening up of the Assam-Brahmaputra Railway gravitated labour-force from the adjoining districts. In a similar way the opening up of Satpura railway line invited new settlements which obviously inflated the growth-rate of Chhattisgarh basin area.

Eleven districts form a contiguous belt in Rajasthan, Madhya Pradesh, Gujarat and Maharashtra stretching from Bhilwara district of Rajasthan to Dhulia district of Maharashtra, where the high growth rate was accentuated by the pull of labour-force for cotton cultivation and textile industry from the surrounding areas. The districts stretching from Palghat gap to Kanyakumari district at the southern tip of the Peninsula showed a high growth-rate which is perhaps due to the pull of man-power from other parts in the wake of introducing plantation crops such as, tea, coffee, rubber and spices.

High growth-rate (over 30%) is well seen in tribal areas—such as in Nagaland and Bastar district of Madhya Pradesh and Sundargarh district of Orissa due to their higher fertility rate.

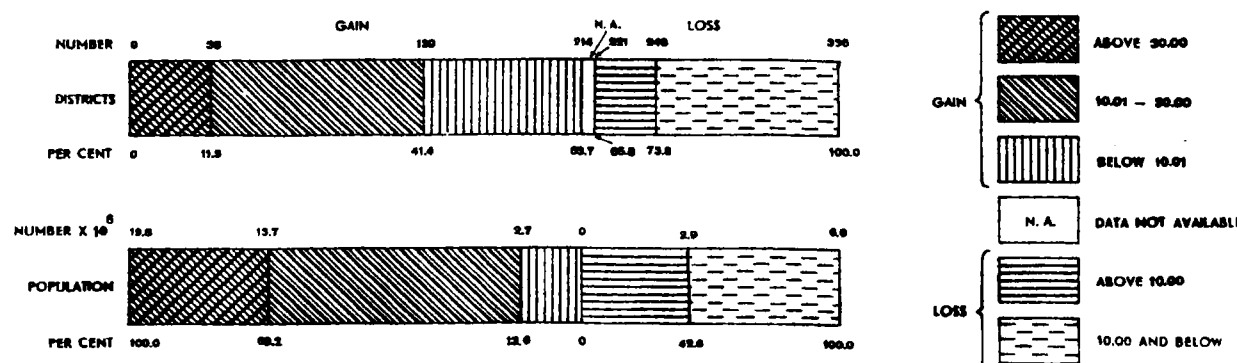
In all, 101 districts fall under the next category of growth-rate (10.01—30.00%) supporting 29.77% of the total population. They are all sporadic in distribution all over the country. The opening up of Hyderabad - Godavari Railway-line gave an extra impetus to trade and commerce of the region which brought more people to Krishna - Godavari delta region. The increase of population was more phenomenal in the hill districts of Uttar Pradesh, Jammu and Kashmir and in Tamilnad plateau. Each of these areas lies quite far off from the parts affected by plague and malaria. People living in the hill areas are more healthy and obviously more immune from diseases, so the rate of increase of population was higher in the hills than in the plain areas affected by epidemics.

The third category of percentage increase of population (below 10%) during these decades is visible in 75 districts supporting 22.02% of the country's total population. These districts are scattered all over the country except in the Rayalaseema region of Andhra Pradesh State where it forms one compact unit.

Sl. No.	State/Union Territory	Population 1901	Population 1921	Net Increase/Decrease during 1901—21	Percentage Increase during 1901—21
1	2	3	4	5	6
	INDIA	238,396,327	251,321,213	12,924,886	+ 5.42
	STATES				
1	Andhra Pradesh	19,065,921	21,420,448	2,354,527	+12.35
2	Assam	3,712,638	5,157,789	1,445,151	+38.93
3	Bihar	27,314,210	28,129,208	814,998	+ 2.98
4	Gujarat	9,094,748	10,174,989	1,080,241	+11.88
5	Jammu and Kashmir	2,139,362	2,424,359	284,997	+13.32
6	Kerala	6,396,262	7,802,127	1,405,865	+21.98
7	Madhya Pradesh	16,860,788	19,171,750	2,310,962	+13.71
8	Madras	19,252,630	21,628,518	2,375,888	+12.34
9	Maharashtra	19,391,643	20,849,666	1,458,023	+ 7.52
10	Mysore	13,054,754	13,377,599	322,845	+ 2.47
11	Orissa	10,302,917	11,158,586	855,669	+ 8.31
12	Punjab	13,265,860	12,465,009	- 800,851	- 6.04
13	Rajasthan	10,294,090	10,292,648	- 1,442	- 0.01
14	Uttar Pradesh	48,625,310	46,669,865	- 1,955,445	- 4.02
15	West Bengal	16,940,088	17,474,348	534,260	+ 3.15
	UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	24,649	27,066	2,437	+ 9.89
2	Delhi	405,819	488,452	82,633	+20.36
3	Himachal Pradesh	844,270	890,046	45,776	+ 5.42
4	Laccadive, Minicoy and Amindivi Islands	13,882	13,637	- 245	- 1.76
5	Manipur	284,465	384,016	99,551	+35.00
6	Tripura	173,325	304,437	131,112	+75.65
7	Dadra and Nagar Haveli	24,280*	31,048	6,768	+27.87
8	Goa, Daman and Diu	507,518*	500,904	- 6,614	- 1.30
9	Pondicherry	246,354	244,156	- 2,198	- 0.89
10	North-East Frontier Agency	No Census prior to 1961			
11	Nagaland	101,550	158,801	57,251	+56.38
12	SIKKIM	59,014	81,721	22,707	+38.48

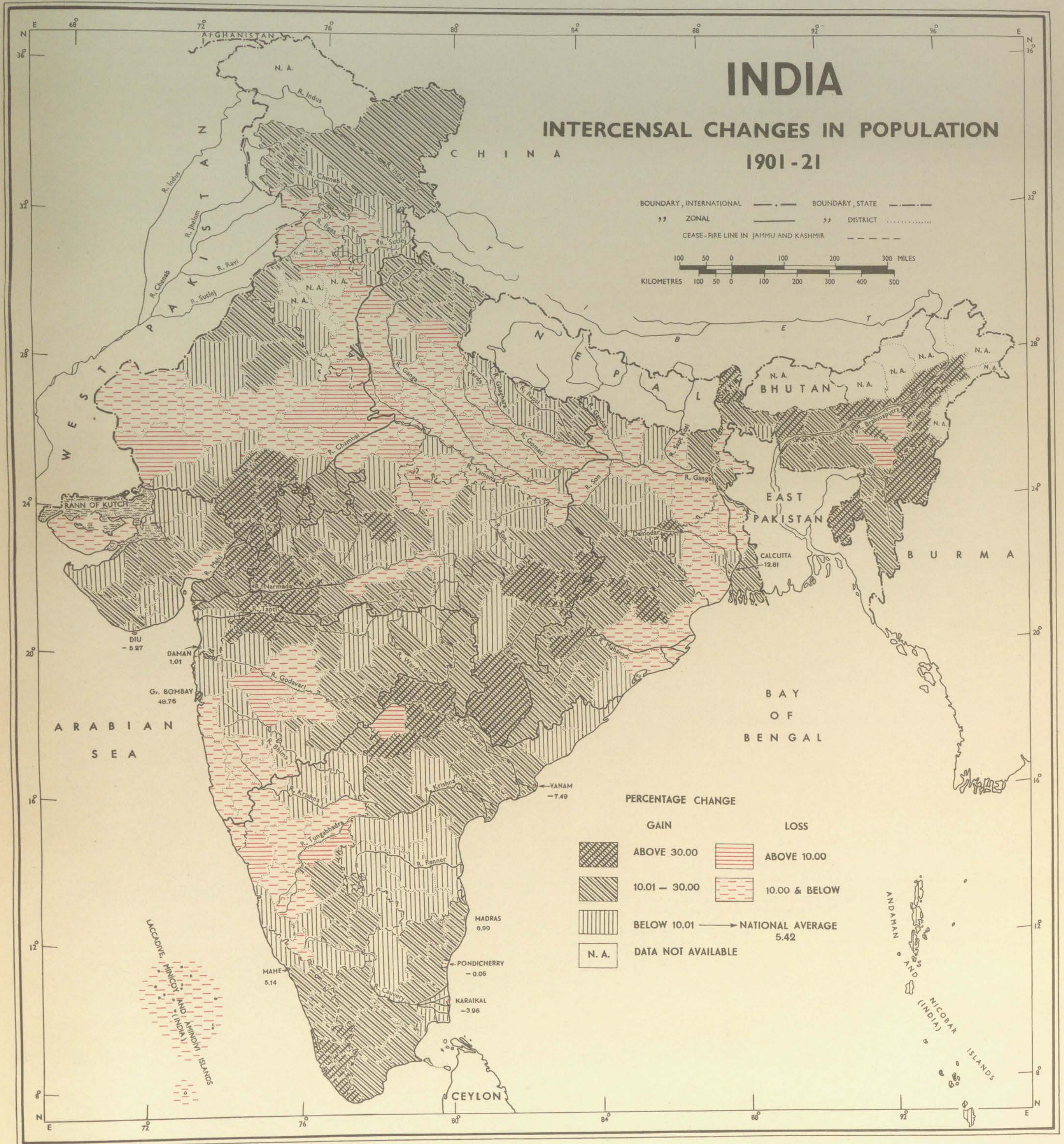
*The population figures of Dadra and Nagar Haveli and Goa, Daman and Diu relate to 1900.

Source : i) Census of India, 1911, Part I Report.
ii) Census of India, 1921, Part I Report.
iii) Census of India, 1961, Volume I, India, Part II-A(i)—General Population Tables.



INDIA

INTERCENSAL CHANGES IN POPULATION 1901-21



INTERCENSAL CHANGES IN POPULATION, 1921—51

Purpose : This map shows the percentage changes in population during the period 1921—51.

Method : The percentage changes are depicted by choropleth method. The data showing percentage gain of population in each district are grouped into five categories—three above, one nearer to and one below the National Average (43·67%).

Salient Features : There was a phenomenal growth of population in the country during 1921—51, but a great regional disparity in its distribution pattern was revealed by this map. The annual rate of growth of population during these three decades was 1·46% whereas in the previous decades (1901—21) it was only 0·27% because more than half of the country suffered a heavy toll of life from epidemics and droughts. The high growth-rate of population during 1921—51 may be attributed to the decline in mortality rate and a rise in birth rate.

During these thirty years the total population increased from 251 to 361 millions, that is, an addition of about 110 million of population which is almost equivalent to the 1961 population living in the Central Zone alone. The decennial growth-rate showed an upward trend during 1921—41 from 11·00% to 14·22% and a slight downward trend during 1941—51, i.e., 13·31%.

Out of 336 districts including Sikkim, 27 districts recorded an exorbitantly high growth rate (>75%) during these three decades. These districts lie in extreme eastern and western parts of the country. The Brahmaputra Valley, Tripura and Mizo Hills district of Assam are the areas in the east which showed a remarkable growth of population during this period. In the Brahmaputra valley the growth-rate was high due to pull of the labour-force by its tea plantation, oil refinery and coal-mining industries. In Mizo Hills district of Assam and Tripura the influx of population from East Pakistan inflated their growth-rate. In the west, the growth of population is significantly high in Bombay city and its hinterland districts corresponding to the Upper Valley of Godavari and Bhima. The reason for this high growth-rate may be attributed

partly to the migration of labour-force from other parts into these areas for employment in cotton ginning, weaving and spinning industries. Other than these two areas, there are pockets of high growth-rate identified with the districts with predominance of industrial and commercial activities, such as, Calcutta and Bangalore and also with plantation agriculture, such as, Nilgiri district. Some of the important administrative and commercial centres, such as, Delhi, Hyderabad, Indore, Jodhpur also recorded a high growth-rate because of the influx of population in search of employment.

The second category of high growth-rate (60·01—75·00%) is visible in two distinct belts—one embracing 14 districts stretching from West Rajasthan Plain through Luni Valley to the Coastal Plain of Kathiawar Peninsula, surrounding the Gir Hills and the other belt comprising five districts not far from the hinterland of Bombay city. Other than these belts there are areas showing a similar high growth-rate which are sporadic in distribution.

Districts showing medium growth-rate (45·01—60·00%) form compact regions in Rajasthan, Gujarat, Mysore and in other parts of the country. Some districts with new industrial and mining centres also show a medium growth-rate such as Hooghly and Burdwan districts of West Bengal, Hazaribagh and Singhbhum districts of Bihar, Keonjhar and Sundargarh districts of Orissa and Salem and Coimbatore districts of Madras.

Growth-rate is relatively low (30·01—45·00%) only in 87 districts in the country. They occur more in the south than in the north. The Rayalaseema region of Andhra Pradesh is conspicuous by its low growth-rate. This area is impressive neither agriculturally nor industrially, so the chances for increase of population by immigration were remote.

A significantly low growth-rate (30·00% & below) is recorded in 92 districts embracing the lower Ganga Plain and the hill areas in the north and the coastal plain of Madras, Orissa and Gujarat. Except the hill areas, others are over-populated tracts, some of them have reached saturation point which kept growth-rate rather low.

Sl. No.	State/Union Territory	1921 population as per 1961 jurisdiction	1951 population as per 1961 jurisdiction	Change in population during 1921—51	Percentage change in population during 1921—51
1	2	3	4	5	6
INDIA		251,321,213	361,088,090	109,759,852	43·67*
STATES					
1	Andhra Pradesh	21,420,448	31,115,259	9,694,811	45·26
2	Assam	5,157,789	8,830,732	3,672,943	71·21
3	Bihar	28,129,208	38,786,184	10,656,976	37·89
4	Gujarat	10,174,989	16,262,657	6,087,668	59·83
5	Jammu and Kashmir	2,424,359	3,253,852**	829,493	34·21
6	Kerala	7,802,127	13,549,118	5,746,991	73·66
7	Madhya Pradesh	19,171,750	26,071,637	6,899,887	35·99
8	Madras	21,628,518	30,119,047	8,490,529	39·26
9	Maharashtra	20,849,666	32,002,664	11,152,998	53·49
10	Mysore	13,377,599	19,401,956	6,024,357	45·03
11	Orissa	11,158,586	14,645,946	3,487,360	31·25
12	Punjab	12,465,009	16,134,890	3,669,881	29·44
13	Rajasthan	10,292,648	15,970,774	5,678,126	55·17
14	Uttar Pradesh	46,669,865	63,215,742	16,545,877	35·45
15	West Bengal	17,474,348	26,299,980	8,825,632	50·51
UNION TERRITORIES AND OTHER AREAS					
1	Andaman and Nicobar Islands	27,086	30,971	3,885	14·34
2	Delhi	488,452	1,744,072	1,255,620	257·06
3	Himachal Pradesh	890,046	1,109,466	219,420	24·65
4	Laccadive, Minicoy and Amindivi Islands	13,637	21,035	7,398	54·25
5	Manipur	384,016	577,635	193,619	50·42
6	Tripura	304,437	639,029	334,592	109·91
7	Dadra and Nagar Haveli	31,048	41,532†	10,484	33·71
8	Goa, Daman and Diu	500,904	596,059†	95,155	19·00
9	Pondicherry	244,156	317,253‡	73,097	29·94
10	North-East Frontier Agency	No Census prior to 1961			
11	Nagaland	158,801	212,975	47,149	29·69@
12	Sikkim	81,721	137,725	56,004	68·53

* Calculated after excluding the 1951 population of Tuensang district of Nagaland as comparable figures for 1921 are not available.

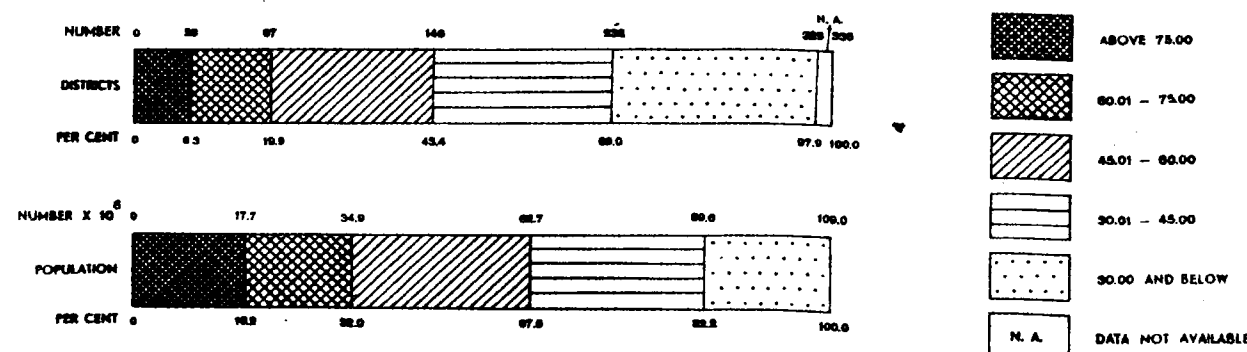
** The population of Jammu and Kashmir for 1951 has been taken as the arithmetic mean of 1941 and 1961 population.

† The population figures of Dadra and Nagar Haveli and Goa, Daman and Diu relate to 1950.

‡ The population figures of Pondicherry relate to 1948.

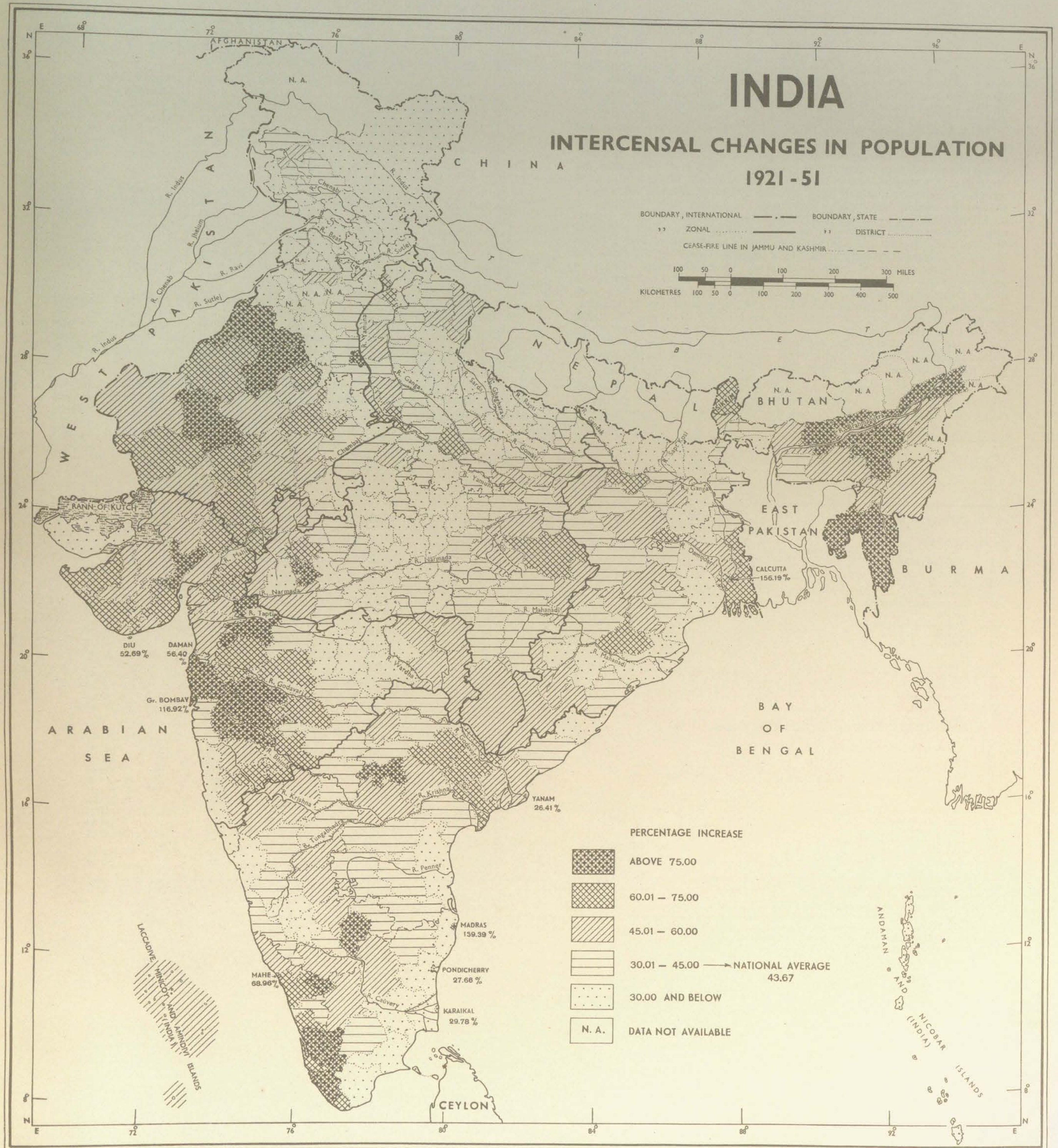
@ Percentage change in population during 1921—51 for Nagaland has been calculated after excluding 1951 population of Tuensang district as comparable figures for 1921 are not available.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



INDIA

INTERCENSAL CHANGES IN POPULATION 1921-51



INTERCENSAL CHANGES IN POPULATION, 1901—61

Purpose : This map intends to bring out the regional variation in the growth of population in the country during 1901—61.

Method : For each of the districts, the growth-rate of population during 1901—61 is calculated and they are grouped into five categories—two above, one nearer to and two below the National Average (84.05%). The districts are then hatched from deep to light shades according to their values.

Salient Features : During sixty years of time, the country encountered a net accretion of 201 millions to its 1901 population indicating a growth-rate of 84.05%. Except Diu district which recorded a loss of population by 2.29% during this period, the average rate of growth of population in the country was very high. A glance at the map reveals that nearly 35.00% of the total districts recorded a high growth-rate of over 100.00% and out of them 64 districts showed an exceptionally high growth-rate of more than 130.00%. A remarkably high rate of growth characterised the North-Eastern region embracing Darjeeling and Jalpaiguri districts of West Bengal, the whole of Assam, Manipur and Tripura and Mokokchung district of Nagaland and Sikkim. During these years the Assam valley invited cultivators from the over-crowded Bengal plain to settle in its fertile flood-plains. Over and above, there were some migrations of labour to this valley from other parts of the country due to its tea plantation and agriculture. Besides, the influx of refugees from East Pakistan in the wake of partition of India in 1947 stimulated the growth-rate. The rest of the North-Eastern region had an accelerated growth-rate during 1951—61 due to the migration of population from East Pakistan following the partition of India. Thus in the entire North-Eastern region, the high growth-rate was occasioned by the mobility of the people from its adjoining country (East Pakistan) as well as from other parts of India.

The second area with a very high growth-rate, though not a compact area, lies in the western part of Northern Rajasthan and a belt embracing twelve districts stretching from Udaipur district in Rajasthan to Dhulia district

in Maharashtra with its extension further west in the valley of Sabarmati and the western half of the Kathiawar Peninsula. The growth-rate was significantly high in the former area in the wake of new settlements consequent upon the extension of canal irrigation from the river Sutlej.

In some regions growth-rate was stimulated by the rapid pace of urbanization and industrialization such as (i) Bangalore district (Engineering Industry); (ii) Hyderabad district (Heavy Electrical Equipment Industry); (iii) Thana district (Chemical Industry); (iv) Howrah district (Engineering Industry); (v) Sundargarh district (Iron and Steel Industry); (vi) Dhanbad district (Coal-mining) and (vii) Keonjhar district (Iron-Ore mining). Other areas of significant growth-rate are the tea and coffee plantation districts in Southern Malabar Coast and Nilgiri Hills.

Growth-rate nearer to the National Average (70.01—100.00%) is visible in nearly one-fourth of the country. A compact zone of thirteen districts covering Tamilnad Plateau and part of Karnatka Plateau shows this level of growth-rate. A similar medium growth-rate is observed in the Chotanagpur Plateau region which is dotted with a number of coal-mining centres. In the middle of Maharashtra and Telangana Plateau, fifteen contiguous districts show medium growth-rate. The other areas of medium growth-rate are sporadic in distribution.

The entire Northern Plain down to the coastal plain of Orissa recorded a low growth-rate (40.01—70.00%), because it was overcrowded and had already attained a saturation point as regards to its supporting capacity. The Southern Telangana, Karnatka Plateau also showed a similar low growth-rate due to the limited capacity of its land-resources for supporting more population.

The districts falling under the lowest growth-rate (40.00% and below) are mostly scattered in the densely populated Northern Plain and in the forested hill districts of Madhya Pradesh.

Sl. No.	State/Union Territory	Population 1901	Population 1961	Change in population during 1901—61	Percentage change in population during 1901—61
1	2	3	4	5	6
INDIA					
	...	238,396,327	439,234,771	200,367,611	+ 84.05*
STATES					
1	Andhra Pradesh	...	...	...	...
2	Assam	19,065,921	35,983,447	16,917,526	+ 88.73
3	Bihar	3,712,638	11,872,772	8,160,134	+ 219.79
4	Gujarat	27,314,210	46,455,610	19,141,400	+ 70.08
5	Jammu and Kashmir	9,094,748	20,633,350	11,538,602	+ 126.87
6	Kerala	2,139,362	3,560,976	1,421,614	+ 66.45
7	Madhya Pradesh	6,396,262	16,903,715	10,507,453	+ 164.27
8	Madras	16,860,768	32,372,408	15,511,640	+ 92.00
9	Maharashtra	19,252,630	33,686,953	14,434,323	+ 74.97
10	Mysore	19,391,643	39,553,718	20,162,075	+ 103.97
11	Orissa	13,054,754	23,586,772	10,532,018	+ 80.68
12	Punjab	10,302,917	17,548,846	7,245,929	+ 70.33
13	Rajasthan	13,265,860	20,306,812	7,040,952	+ 53.08
14	Uttar Pradesh	10,294,090	20,155,602	9,861,512	+ 95.80
15	West Bengal	48,625,310	73,746,401	25,121,091	+ 51.66
	...	16,940,088	34,926,279	17,986,191	+ 106.18
UNION TERRITORIES AND OTHER AREAS					
1	Andaman and Nicobar Islands	...	...	...	...
2	Delhi	24,649	63,548	38,899	+ 157.81
3	Himachal Pradesh	405,819	2,658,612	2,252,793	+ 555.12
4	Laccadive, Minicoy and Amindivi Islands	844,270	1,351,144	506,874	+ 60.04
5	Manipur	13,882	24,108	10,226	+ 73.66
6	Tripura	284,465	780,037	495,572	+ 174.21
7	Dadra and Nagar Haveli	173,325	1,142,005	968,680	+ 558.88
8	Goa, Daman and Diu	24,280**	57,963†	33,683	+ 138.73
9	Pondicherry	507,518**	626,667†	119,149	+ 23.48
10	North-East Frontier Agency	246,354	369,079	122,725	+ 49.82
11	Nagaland	No census prior to 1961	336,558	...	...
12	Sikkim	101,550	369,200	133,375	+ 131.34†
	...	59,014	162,189	103,175	+ 174.83

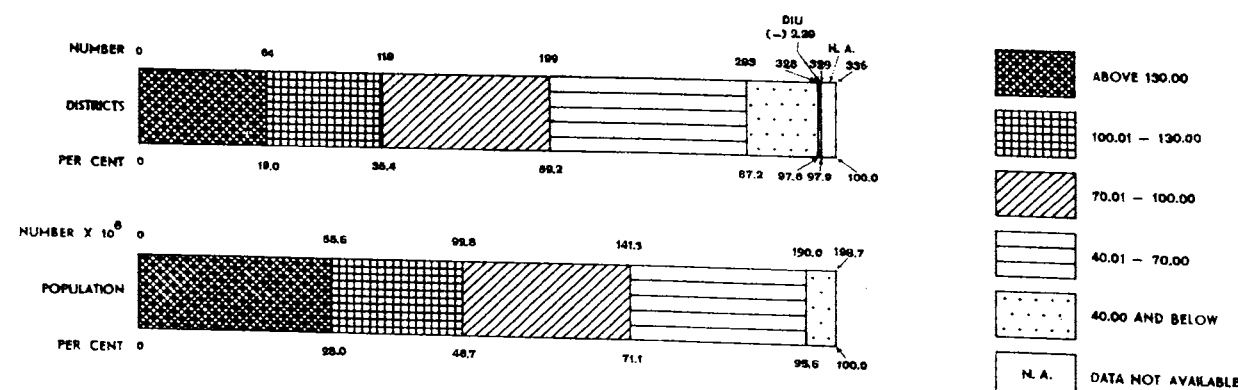
* Calculated after excluding the 1961 population of North-East Frontier Agency and Tuensang District of Nagaland as comparable figures for 1901 are not available.

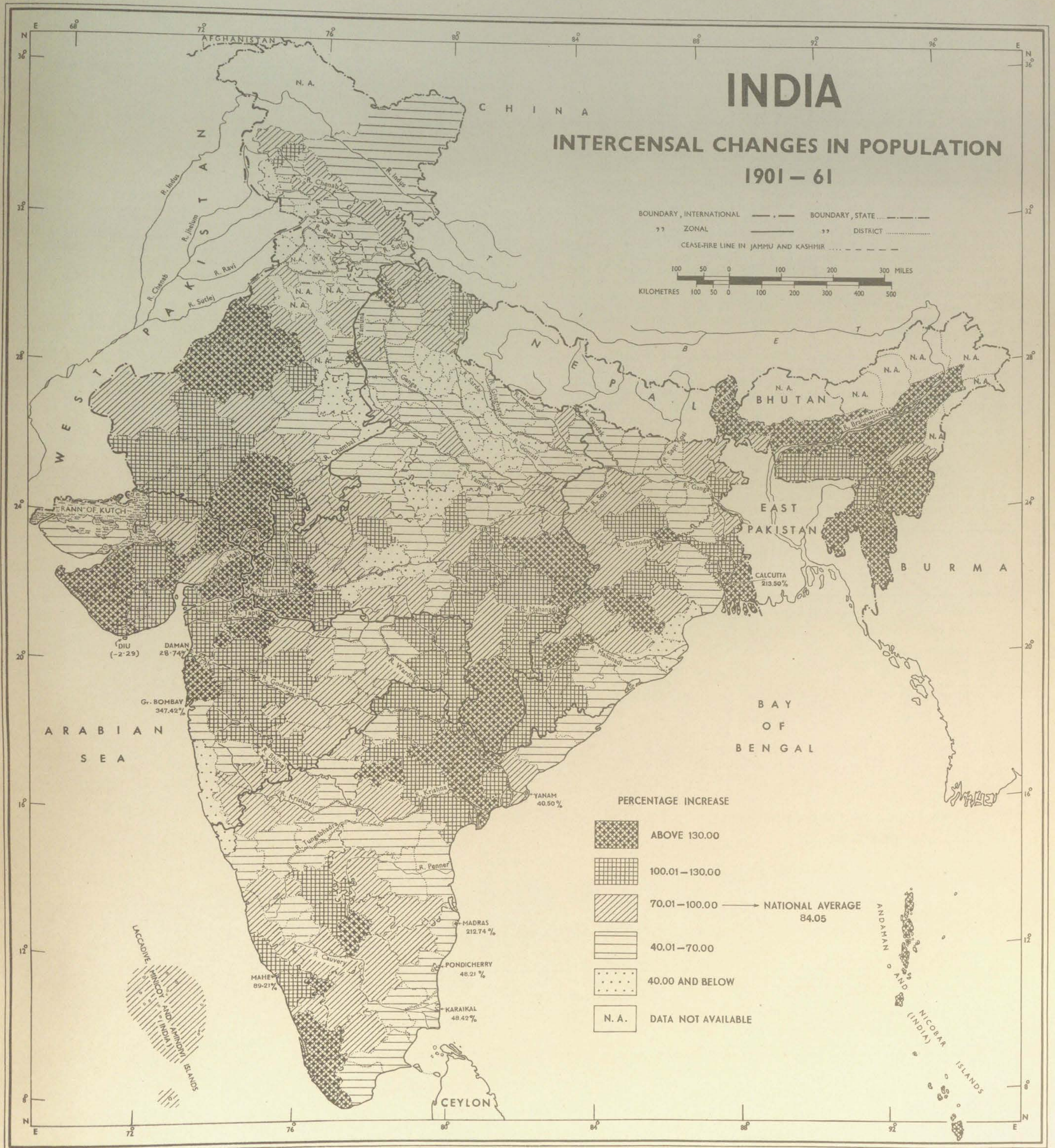
** The population figures of Dadra and Nagar Haveli and those of Goa, Daman and Diu relate to 1900.

† The population figures of Dadra and Nagar Haveli and those of Goa, Daman and Diu relate to 1962 and 1960 respectively.

‡ Percentage change in population during 1901—61 for Nagaland has been calculated after excluding 1961 population of Tuensang district as comparable figures for 1901 are not available.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.





INTERCENSAL CHANGE IN POPULATION, 1951-61

Purpose : This map brings out the regional disparity in growth of population during 1951-61.

Method : For each of the districts, the percentage change in population during 1951-61 is calculated. For Jammu and Kashmir the data for 1951 are based on arithmetic mean of 1941 and 1961 Census figures as no Census was conducted in 1951. The data are grouped into five ranges—two above, one nearer to and two below the National Average (21.51%). They are hatched by shades from dark to light according to their gradation from high to low percentage changes.

Salient Features : There was a net accretion of 78 millions in 1961 over 1951 population, accounting for a decennial growth-rate of (21.51%). Excepting Daman and Diu, which recorded a negative growth-rate, the map shows gain in population all over the country. It also reveals that growth-rate was conspicuously high in the eastern and western extremities of the country. It embraces Tripura, Manipur, Assam (except Shillong Plateau and districts of Sibsagar and Cachar) and the border districts of West Bengal. The Assam Valley as well as Darjeeling district of West Bengal invited labour force from other parts during the last few decades by its traditional tea cultivation. The farmers from the overcrowded Bengal plain also migrated and settled in the Brahmaputra Valley in earlier decades. Since the Partition of India there was a tremendous influx of refugees into this valley from East Pakistan. So it can well be seen that this exceptionally high growth-rate of >33% at the eastern extremity is due to the immigration of the people from East Pakistan and also from the neighbouring States.

A similar high growth-rate is visible in the Punjab and Trans-Yamuna tract in the North-West. Here the growth-rate was very high probably due to the influx of refugees from West Pakistan following the Partition of India. Other than these two regions at the two extremities, the growth-rate was significantly high in twelve more districts which are scattered in location. Some of these districts represent important areas of mining and industries, such as, Shimoga district in Mysore, Sundergarh district in Orissa and the Union Territory of Delhi.

In the next high growth-rate range (25.01-33.00%) two compact areas are visible—one along the International border of Rajasthan, the other in the lava plateau region comprising western Maharashtra, Gujarat and Madhya Pradesh. In the former area growth-rate was accelerated due to the under-

taking of Rajasthan Canal Project which attracted new settlers in numbers. In the latter areas, the growth-rate was high because of the pull of manpower by the expansion of textile and other industries. Dandakaranya area also recorded a high growth-rate because displaced persons from East Pakistan were settled there. The State of Kerala excepting the districts of Palghat, Trichur, Ernakulam and Alleppey showed a similar high growth-rate. Perhaps, the decline in mortality was responsible for this high rate of growth of population during this decade. High growth-rate is also observed in some tribal districts of Madhya Pradesh and Orissa, such as, Bastar, Surguja and Shahdol districts of Madhya Pradesh and Keonjhar district of Orissa. Continuous progress in mining and industries including plantation was responsible for the high increase of population in Dhanbad district of Bihar, Howrah district of West Bengal and Nilgiri district of Madras.

In the western part of the country, over an extensive area stretching from Himachal Pradesh down to Mysore, the growth-rate was medium. It embraces Himachal Pradesh, part of Ganga-Yamuna doab area, the eastern half of Rajasthan, Bundelkhand Plateau, Vindhyan's Scarplands of Madhya Pradesh, eastern part of Maharashtra Plateau, Upper Krishna and Tungbhadra basin and part of Maidan area in Mysore. In the eastern part of the country, the growth-rate was medium in a few districts occurring as patches in the States of Orissa, Bihar and Andhra Pradesh.

The areas showing low growth-rate are limited in stretch. Nevertheless, two distinct areas may be distinguished — (i) a narrow strip stretching from the Western Himalayas down to the Ganga Plain, embracing Rohilkhand, Oudh and Middle Ganga Plains, (ii) South-Eastern coast of the peninsula from Nellore district of Andhra Pradesh down to Ramanathapuram district of Madras. Other areas of low growth-rate are scattered in the heart of Orissa Plateau, Northern Telangana Plateau, north-eastern part of the Maidan area in Mysore, plateau of Bihar, Bilaspur and Balaghat districts of Madhya Pradesh. It is worth emphasising that the growth-rate has been perceptively low in the most crowded part of the Ganga Plain. This is, perhaps, due to heavy out-migration of population from this area to other parts of the country.

The lowest growth-rate is recorded only in 12 districts which are distributed as—4 in Madras State, 3 in Jammu and Kashmir State, 1 each in Maharashtra, Punjab and West Bengal States, the Union Territories of Goa, Daman and Diu and Pondicherry.

Sl. No.	State/Union Territory	Population 1951	Population 1961	Change in population during 1951-61	Percentage change in population during 1951-61
1	2	3	4	5	6
	INDIA*	361,088,090	439,234,771	77,682,873	+ 21.51
	STATES				
1	Andhra Pradesh	31,115,259	35,983,447	4,868,188	+ 15.65
2	Assam	8,830,732	11,872,772	3,042,040	+ 34.45
3	Bihar	38,786,184	46,455,810	7,669,626	+ 19.77
4	Gujarat	16,262,657	20,633,350	4,370,693	+ 26.88
5	Jammu and Kashmir**	3,253,852	3,560,976	307,124	+ 9.44
6	Kerala	13,549,118	16,903,715	3,354,597	+ 24.76
7	Madhya Pradesh	26,071,637	32,372,408	6,300,771	+ 24.17
8	Madras	30,119,047	33,686,953	3,567,906	+ 11.85
9	Maharashtra	32,002,564	39,553,718	7,551,154	+ 23.60
10	Mysore	19,401,956	23,586,772	4,184,816	+ 21.57
11	Orissa	14,645,946	17,548,846	2,902,900	+ 19.82
12	Punjab	16,134,890	20,306,812	4,171,922	+ 25.86
13	Rajasthan	15,970,774	20,155,602	4,184,828	+ 26.20
14	Uttar Pradesh	63,215,742	73,746,401	10,530,659	+ 16.66
15	West Bengal	26,299,980	34,926,279	8,626,299	+ 32.80
	UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	30,971	63,548	32,577	+ 105.19
2	Delhi	1,744,072	2,658,612	914,540	+ 52.44
3	Himachal Pradesh	1,109,466	1,351,144	241,678	+ 21.78
4	Laccadive, Minicoy and Amindivi Islands	21,035	24,108	3,073	+ 14.61
5	Manipur	577,635	780,037	202,402	+ 35.04
6	Tripura	639,029	1,142,005	502,976	+ 78.71
7	Dadra and Nagar Haveli†	41,532	57,963	16,431	+ 39.56
8	Goa, Daman and Diu††	596,059	626,667	30,608	+ 5.14
9	Pondicherry‡	317,253	369,079	51,826	+ 16.34
10	North-East Frontier Agency	No census prior to 1961	336,558	...	...
11	Nagaland@	212,975	369,200	28,975	+ 14.07
12	SIKKIM	137,725	162,189	24,464	+ 17.76

* Percentage change for India has been calculated after excluding the 1961 population of North-East Frontier Agency and Tuensang district of Nagaland as comparable figures are not available for 1951.

** The population of Jammu and Kashmir for 1951 has been taken as the arithmetic mean of 1941 and 1961 population.

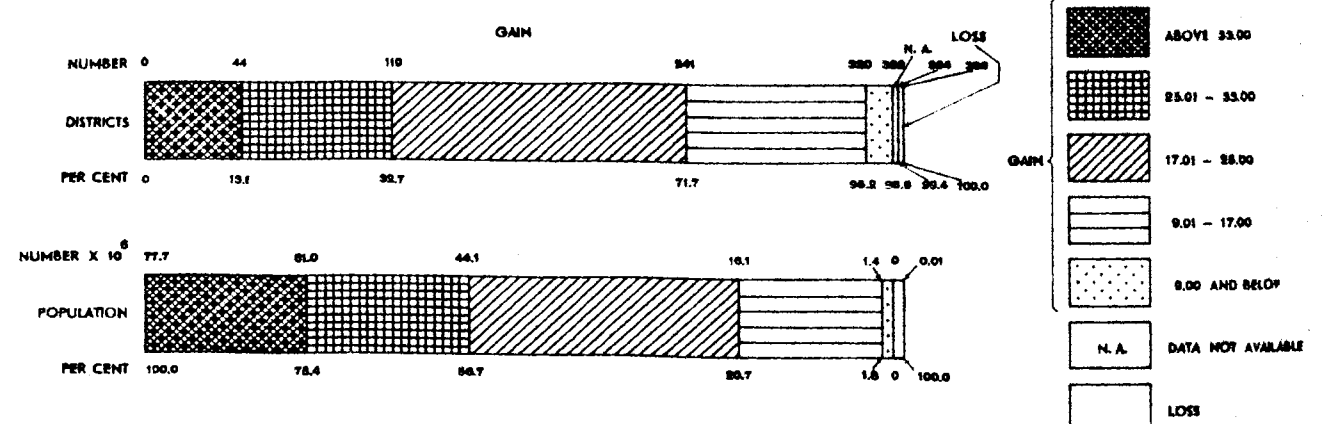
† The population of Dadra and Nagar Haveli given under columns 3 and 4 relate to the years 1950 and 1962 respectively.

†† The population of Goa, Daman and Diu given under columns 3 and 4 relate to the years 1950 and 1960 respectively.

‡ The population of Pondicherry given under column 3 relates to the year 1948.

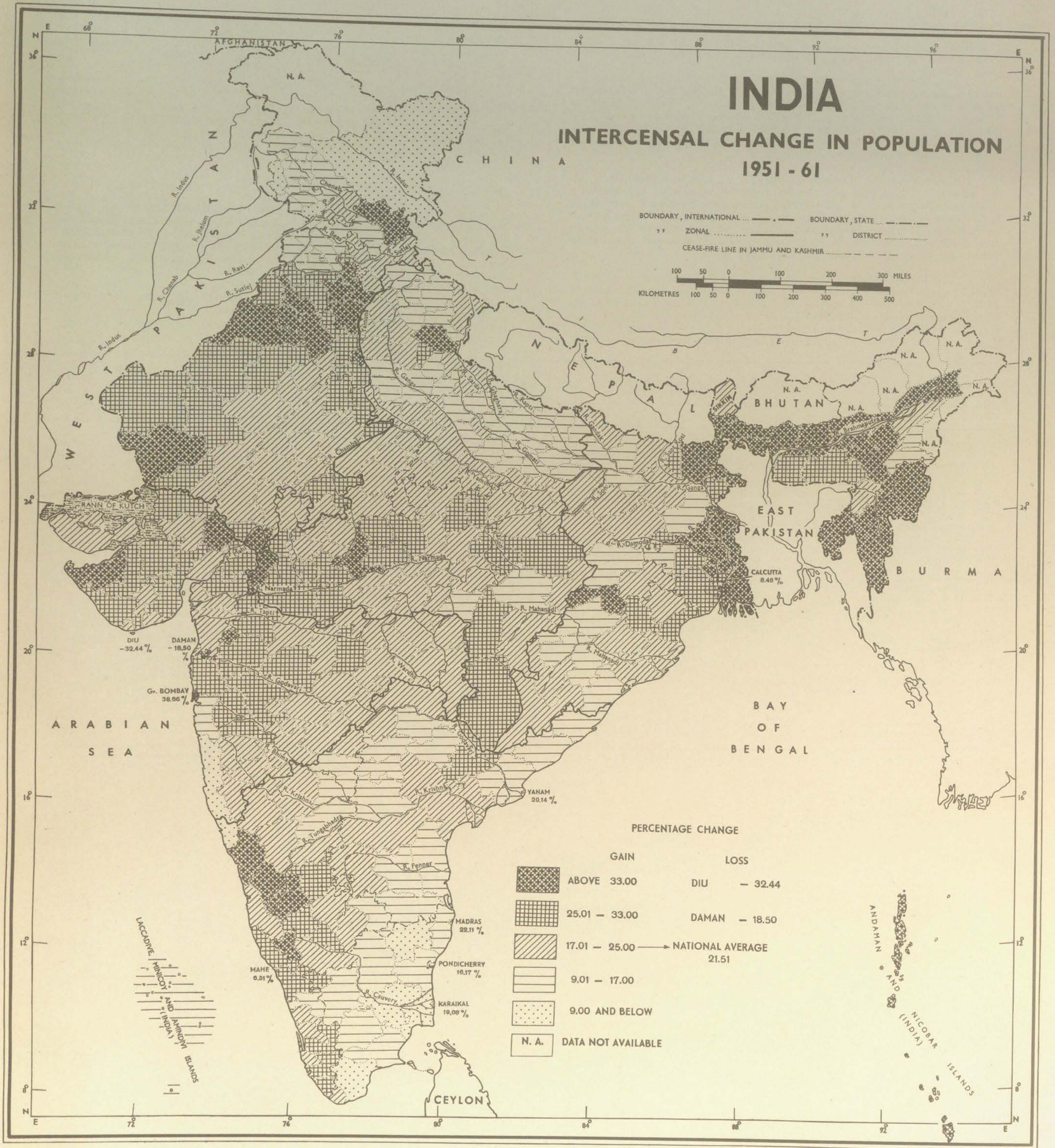
@ Percentage change in population during 1951-61 has been calculated after excluding the 1961 population of Tuensang district as comparable figures for 1951 are not available.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



INDIA

INTERCENSAL CHANGE IN POPULATION 1951 - 61



GROWTH OF POPULATION, 1951—61

Purpose : This map shows the intercensal growth-rate of population in different States and Union Territories of India as well as the variations in pressure which the newly added population exerts on the existing population.

Method : The data are grouped into five categories, two above, one nearer to and two below the National Average. The States and Union Territories are then shaded by five grades of hatching ranging from high to low. For greater facility of reading, the percentage changes are inserted in each unit of territory. The increase in population between 1951—61 is further shown by pie-graphs; the figures in the shaded portion represent the intercensal increase as percentage of the total 1961 population.

Salient Features : During 1951—61, India's population increased from 361 millions to 439 millions indicating an absolute increase of 78 millions and a percentage increase of 21.51. The overall growth-rate, though not inordinately high, shows a wide regional disparity. The Andaman and Nicobar Islands in the Bay of Bengal, for example, are characterised by the maximum growth-rate of 105.19%, while on the other extreme, Goa, Daman and Diu, on the West Coast, shows the minimum growth-rate of 5.14%.

The States around East Pakistan, viz., West Bengal, Assam, Manipur and Tripura experience very high growth-rate ranging between 78.71% and 32.80%. The second area of high growth-rates comprises the North-western States of Gujarat (26.88%), Rajasthan (26.20%), Punjab (25.86%) bordering West Pakistan and the Union Territory of Delhi (52.44%). The Jammu and Kashmir State, though falling in the same region shows an

exceptionally low rate of growth (9.44%). It may, however, be mentioned here that no Census was taken for this State in 1951. Its growth-rate has, therefore, been calculated by assuming the 1951 population figure as the arithmetic mean of 1941 and 1961 population.

The contiguous States of Madhya Pradesh (24.17%), Maharashtra (23.60%), Mysore (21.57%) and Kerala (24.76%) form a compact region with their growth-rates nearer to the National Average. The region is bounded in the north and east by the States of Uttar Pradesh (16.66%), Bihar (19.77%) and Orissa (19.82%) with comparatively low growth-rate and in the south-east by Andhra Pradesh and Madras experiencing still lower growth-rate of (15.65%) and (11.85%) respectively.

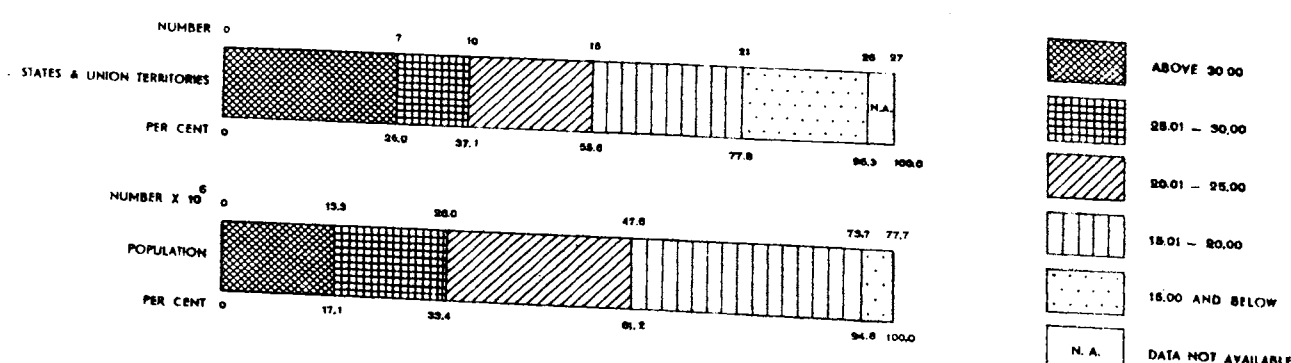
Accretions as Proportion of 1961 Population :

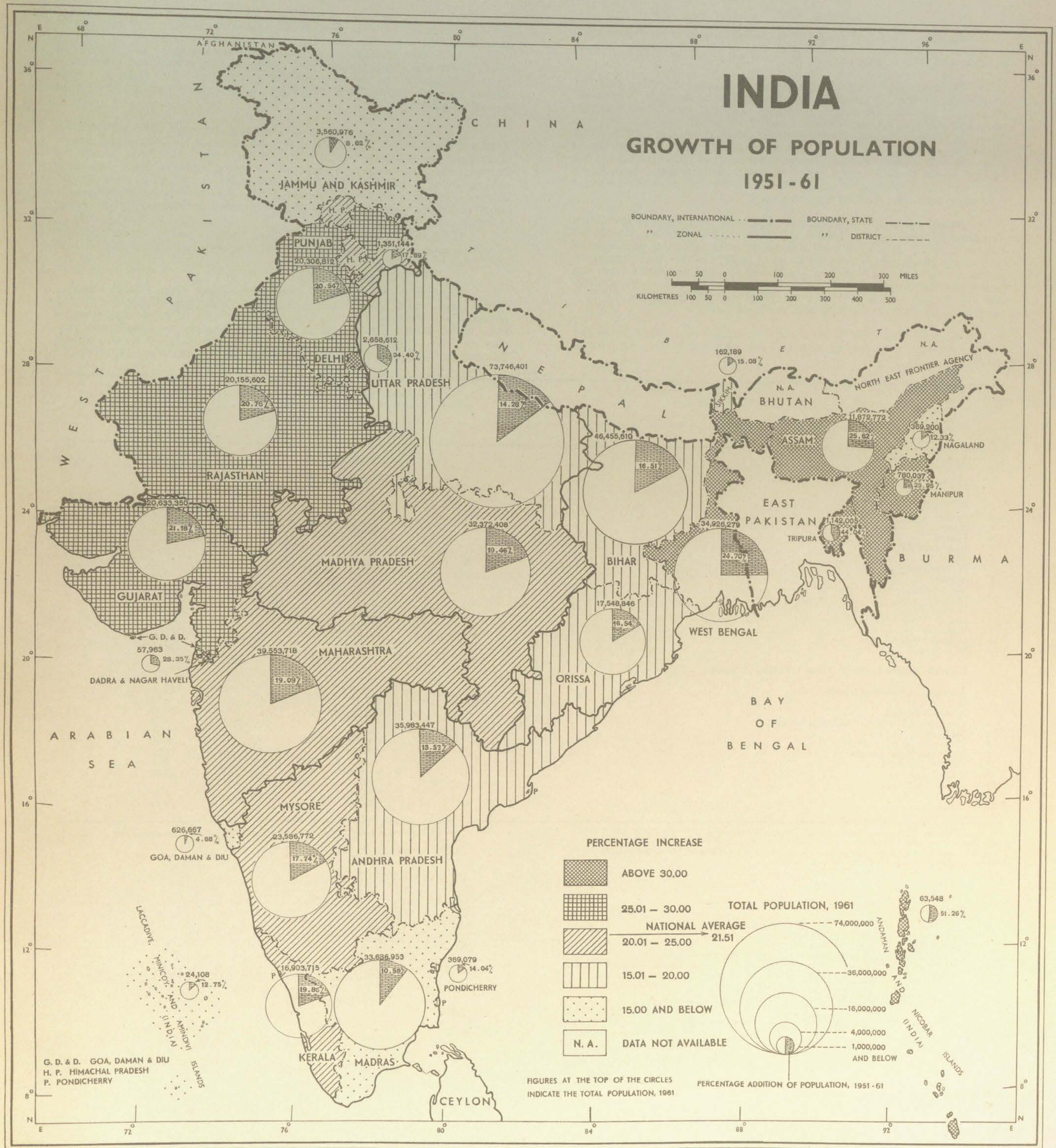
A comparative study of the pie-graphs of various States reveals that the net percentage accretions to the 1961 population are significantly high in the State of Assam and Union Territories of Andaman and Nicobar Islands, Tripura, Manipur and Dadra and Nagar Haveli. This addition, however, does not present much cause for alarm since the density of population in these areas is not very high. On the other extreme, the States of Uttar Pradesh (14.28%) and Bihar (16.51%), though showing low accretions, present more serious problems, as their population size and density are already very high. The situation is graver still in West Bengal where the addition of 24.70% has put a high pressure on the State which is one of the most densely populated States (Density-399 persons per sq. km.) of the country.

Rank	State/Union Territory/Other Areas	Intercensal (1951—61) variation as percentage of 1951 population	Intercensal (1951—61) variation as percentage of 1961 population
1	2	3	4
	INDIA	21.51	17.69
1	Andaman and Nicobar Islands	105.19	51.26
2	Tripura	78.71	44.04
3	Delhi	52.44	34.40
4	Dadra and Nagar Haveli	39.56	28.35
5	Manipur	35.04	25.95
6	Assam	34.45	25.62
7	West Bengal	32.80	24.70
8	Gujarat	26.88	21.18
9	Rajasthan	26.20	20.76
10	Punjab	25.86	20.54
11	Kerala	24.76	19.85
12	Madhya Pradesh	24.17	19.46
13	Maharashtra	23.60	19.09
14	Himachal Pradesh	21.78	17.89
15	Mysore	21.57	17.74
16	Orissa	19.82	16.54
17	Bihar	19.77	16.51
18	SIKKIM	17.76	15.08
19	Uttar Pradesh	16.66	14.28
20	Pondicherry	16.34	14.04
21	Andhra Pradesh	15.65	13.53
22	Laccadive, Minicoy and Amindivi Islands	14.61	12.75
23	Nagaland	14.07	12.33
24	Madras	11.85	10.59
25	Jammu and Kashmir	9.44	8.62
26	Goa, Daman and Diu	5.14	4.88
27	North-East Frontier Agency	...	...

Note : The foot-notes given below the table for Map 19 are applicable to this table also.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.





INTERCENSAL CHANGE IN RURAL POPULATION, 1951—61

Purpose : This map depicts the intercensal change in rural population for each of the States and Union Territories, as well as the accretion of rural population in 1961 over 1951.

Method : For every unit the change of population during 1951—61 whether gain or loss, is calculated as a percentage of the 1951 population. Data on the gain side are grouped into five categories—two above and two below the National Average (20·49%) and those on the loss side into two categories. The States and Union Territories which show gain in population are hatched in black from dark to light shades and those that had undergone losses by red shades. Circles proportionate to total rural population are inserted in the heart of every State and Union Territory and a sector is cut off to represent the addition of rural population within this decade. No sector is drawn in the circles showing negative growth.

Salient Features : Population in rural India, excepting for two Union Territories of Pondicherry and Delhi, increased from 299 millions in 1951 to 360 millions in 1961. Thus 61 millions were added to the 1951 rural population of the country, giving a decennial growth-rate of 20·49% in the rural population. But there is a marked disparity in growth-rate of rural population from one State/Union Territory to another. For example, the Union Territory of Andaman and Nicobar Islands recorded a percentage increase as high as 115·50% as against only 6·12% in the State of Jammu and Kashmir.

Nearly three-fourths of the country embracing nine major States and five Union Territories showed a growth-rate above the National Average (20·49%).

The States of West Bengal and Assam witnessed a very high rate of increase in rural population exceeding 30% during 1951—61 due to the influx of refugees from East Pakistan in the wake of partitioning of the country in 1947. For similar reason, the State of Punjab and Rajasthan also exhibited a fairly high growth-rate of rural population (>24·00%). The State of Kerala showed a growth-rate of 22·40% which appears to be the result of a fairly high natural increase.

Population increased at a rate ranging between 10·01—20·00% in Andhra Pradesh, Orissa, Bihar, Uttar Pradesh, Laccadive, Minicoy and Amindivi Islands and Sikkim. In all these major States the 'Push' factors of unemployment and underemployment in rural areas appear to have stimulated out-migration of population in substantial numbers to other parts of the country in search of gainful employment. This may perhaps be the reason for the comparatively slow growth-rate of rural population observed in these areas.

The States of Madras and Jammu and Kashmir and the Union Territory of Goa, Daman and Diu recorded the lowest growth-rate (below 10·00%) of rural population during 1951—61.

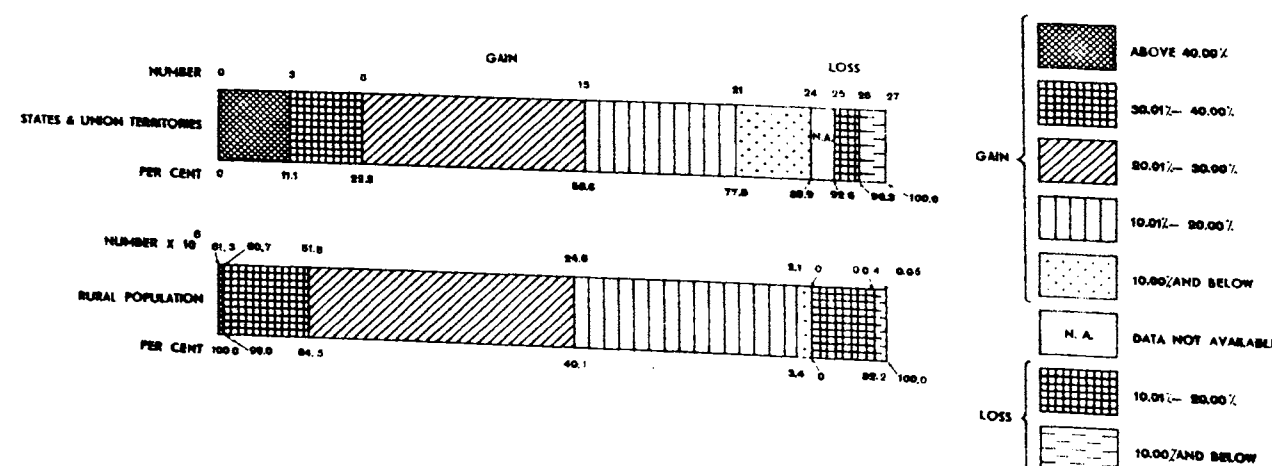
The Union Territories of Pondicherry and Delhi show negative growth-rates in rural population, the percentage losses being 11·72% and 2·52% respectively. The reason for this negative growth-rate of rural population in Delhi Union Territory is not far to seek. The continuous urban-sprawl into rural areas led to a phenomenal increase of urban population in this Union Territory at the expense of its rural population during the decade 1951—61.

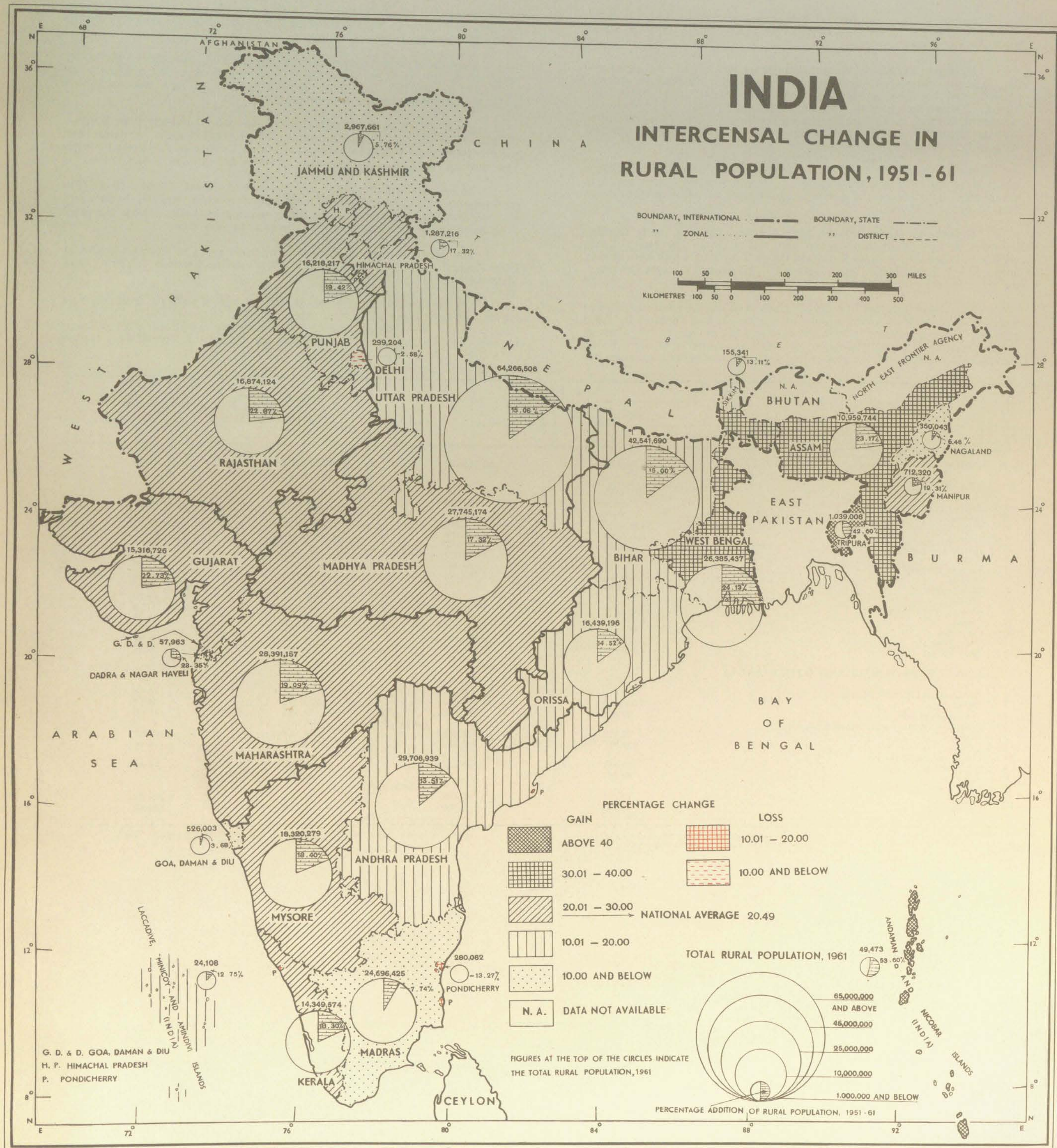
Sl. No.	State/Union Territory	Intercensal (1951—61) variation as percentage of 1951 Population	Intercensal (1951—61) variation as percentage of 1961 Population
1	2	3	4
	INDIA*	20·49	16·98
	STATES		
1	Andhra Pradesh	15·62	13·51
2	Assam	30·16	23·17
3	Bihar	17·65	15·00
4	Gujarat	29·42	22·73
5	Jammu and Kashmir	6·12	5·76
6	Kerala	22·40	18·30
7	Madhya Pradesh	20·95	17·32
8	Madras	8·39	7·74
9	Maharashtra	24·51	19·69
10	Mysore	22·56	18·40
11	Orissa	16·99	14·62
12	Punjab	24·10	19·42
13	Rajasthan	29·65	22·87
14	Uttar Pradesh	17·73	15·06
15	West Bengal	31·81	24·13
	UNION TERRITORIES AND OTHER AREAS		
1	Andaman and Nicobar Islands	115·50	53·60
2	Delhi	(—) 2·52	(—) 2·58
3	Himachal Pradesh	20·94	17·32
4	Laccadive, Minicoy and Amindivi Islands	14·61	12·75
5	Manipur	23·93	19·31
6	Tripura	74·20	42·60
7	Dadra and Nagar Haveli	39·56	28·35
8	Goa, Daman and Diu	3·82	3·68
9	Pondicherry	(—) 11·72	(—) 13·27
10	North-East Frontier Agency	...	...
11	Nagaland**	6·91	6·56
12	Sikkim	15·08	13·11

*Percentage variation has been calculated after excluding the 1961 population of North-East Frontier Agency and Tuensang district of Nagaland as comparable figures for 1951 are not available.

**Percentage variation has been calculated after excluding the 1961 population of Tuensang district for which comparable figures are not available for 1951.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.





INTERCENSAL CHANGE IN URBAN POPULATION, 1951—61

Purpose : This map depicts the intercensal growth-rate of urban population as well as the net accretion of urban population during 1951—61 for all the States and Union Territories.

Method : The data of decennial rate of increase have been grouped into five categories—three above, one nearer to and one below the National Average (26.41%) and they are shown by five different grades of hatching as shown in the legend. The net accretions of urban population during 1951—61 are shown by pie-graphs. For each of the States and Union Territories, a circle proportionate to the total urban population of 1961 is drawn and a sector is cut off to represent the population added during 1951—61.

Salient Features : India's urban population in 1951 was 62.4 millions which increased to 78.9 millions in 1961. Thus 16.5 millions were added in urban areas and this gave a decennial growth-rate of urban population as 26.41% during 1951—61.

Growth-rate was exorbitantly high in those States and Union Territories where the level of urbanization was very low in 1951. The rate of urban growth was slackened in those States and Union Territories which were already advanced in industrialization and urbanization. In some of the agrarian States, the urban growth-rate was very low.

The Union Territory of Manipur which is still under-urbanized showed a staggering growth of urban population during the last decade. Its 0.003 million of urban population in 1951 increased to 0.068 million in 1961 showing an increase over 20 times. Though no new town was added in Manipur Union Territory during 1951—61, the growth-rate was exorbitant in the last decade due

to expansion of existing urban centre. Urban growth-rate has also been phenomenal (over 3 times) in Nagaland during this decade where two new townships of Dimapur and Mokokchung sprang up.

Growth of urban population is conspicuous in some of the under-urbanized States, such as, Assam & Orissa, which recorded a growth-rate between 80.01—160.00%. In these States a number of new townships came up in the wake of industrialization programme.

Urban growth-rate was moderately high (40.01—80.00%) in Madhya Pradesh, Bihar and the Union Territories of Himachal Pradesh, Andaman and Nicobar Islands and Delhi. In these States/Union Territories over-grown villages have been upgraded to towns according to urban definition of 1961 Census.

The growth-rate of urban population is medium (20.01—40.00%) in the States of Maharashtra, Gujarat, West Bengal, Madras, Kerala, Jammu and Kashmir and Punjab. The reason for this medium growth-rate is that the level of urbanization in these States in 1951 was already very high.

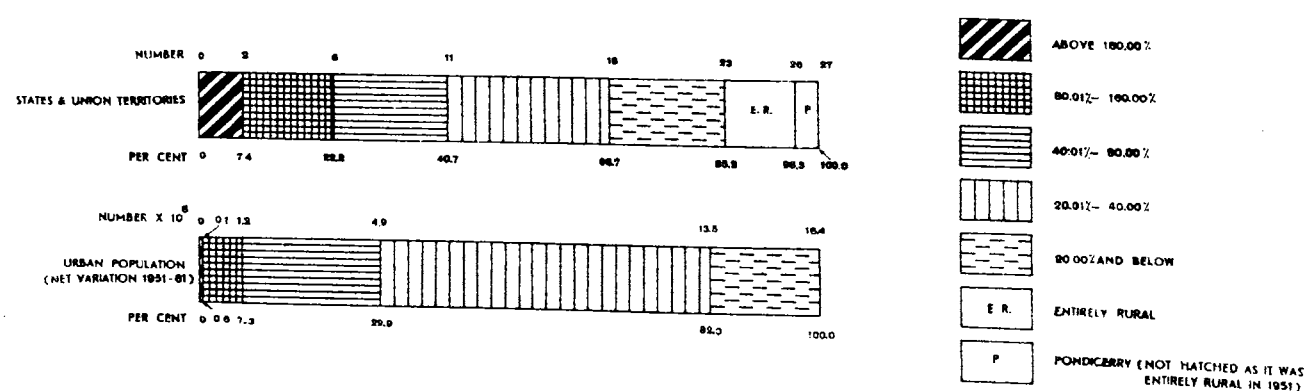
The progress of urbanization is relatively low (20.00% and below) in Uttar Pradesh (9.90%), Rajasthan (11.04%), Andhra Pradesh (15.76%) and Mysore (18.26%).

The highly urbanized States in the country exhibit a relatively low growth-rate but the net addition of urban population during 1951—61 is significantly large. West Bengal had by far the largest addition (2.26 millions) followed by Maharashtra (1.96 millions) and Madras (1.66 millions) during 1951—61.

Sl. No.	State/Union Territory	Urban Population		Net Increase	Percentage increase of population during 1951—61
		1961	1951		
1	2	3	4	5	6
INDIA		78,936,603	62,443,934	16,492,669	26.41
STATES					
1	Andhra Pradesh	6,274,508	5,420,325	854,183	15.76
2	Assam	913,028	410,293	502,735	122.53
3	Bihar	3,913,920	2,626,261	1,287,659	49.03
4	Gujarat	5,316,624	4,427,896	888,728	20.07
5	Jammu and Kashmir	593,315	457,213*	136,102	29.77
6	Kerala	2,554,141	1,825,832	728,309	39.89
7	Madhya Pradesh	4,627,234	3,132,937	1,494,297	47.70
8	Madras	8,990,528	7,333,525	1,657,003	22.59
9	Maharashtra	11,162,561	9,201,013	1,961,548	21.32
10	Mysore	5,266,493	4,453,480	813,013	18.26
11	Orissa	1,109,650	594,070	515,580	86.79
12	Punjab	4,088,595	3,066,442	1,022,153	33.33
13	Rajasthan	3,281,478	2,955,275	326,203	11.04
14	Uttar Pradesh	9,479,895	8,625,699	854,196	9.90
15	West Bengal	8,540,842	6,281,642	2,259,200	35.97
UNION TERRITORIES AND OTHER AREAS					
1	Andaman and Nicobar Islands	14,075	8,014	6,061	75.63
2	Delhi	2,359,408	1,437,134	922,274	64.17
3	Himachal Pradesh	63,928	45,146	18,782	41.60
4	Laccadive, Minicoy and Amindivi Islands	...	...	...	...
5	Manipur	67,717	2,862	64,855	2,266.07
6	Tripura	102,997	42,595	60,402	141.81
7	Dadra and Nagar Haveli	...	...	...	...
8	Goa, Daman and Diu	100,664	89,411	11,253	12.59
9	Pondicherry	88,997	...	88,997	...
10	North-East Frontier Agency	...	...	...	...
11	Nagaland	19,157	4,125	15,032	364.41
12	Sikkim	6,848	2,744	4,104	149.56

*The 1951 population is the arithmetic mean of the population of the continuing towns between 1941 and 1961. Seven towns of 1941 (population 18,633) which are not towns in 1961 have been treated as declassified in 1951.

Source : Census of India, 1961, Vol. I, India, Part II-A (i)—General Population Tables.





FERTILITY DIFFERENTIALS, 1961

(Child-woman ratio)

Purpose : The map shows the districtwise distribution of child-woman ratio which brings out the fertility differentials in the country.

Method : The child-woman ratio for each district is calculated as :

$$\frac{\text{Number of children in age group 0—4}}{\text{Number of women in age group 15—44}} \times 100$$

The data for the number of women in age group 15—44 are taken from 1961 Census figures (1961 Census : Paper No. 2, 1963—Age Tables). Adjusted data on number of children in age group are available only statewide. To obtain the districtwise figures, the ratio between the total population of the State and the State's total number of children in age group 0—4 is calculated first; the total number of children in age group 0—4 of the districts are then individually calculated in proportion to the total population of the district and the State's ratio obtained (Age Tables, Paper No. 2 of 1963). Data thus obtained are plotted against each district and are arranged under six ranges as shown in the legend of the map. The map is then prepared by choropleth technique which gives some indication of the differentials in fertility among the districts in the country.

Salient Features : The map brings out the following important features :—

a) The child-woman ratio in the country as a whole is 78.90 per cent; a figure which can not be considered in any way as 'low'.

b) In general, the child-woman ratio varies between 70 to 90 per cent in India

c) The child-woman ratio is generally low in urbanised areas, being the lowest in the district of Calcutta (48.48 per cent).

Turning to regional variation, the districts where the child-woman ratio exceed 100, are to be found in the following areas :—

i) The Brahmaputra Valley in Assam comprising the districts of Goalpara (105.32 per cent), Nowgong (104.24 per cent), Kamrup (103.42 per cent) and Lakhimpur (102.62 per cent).

ii) A part of the arid zone of India comprising the districts of Ganganagar in Rajasthan (101.58 per cent) and Hissar in Punjab (104.58 per cent).

iii) Three isolated areas, one in Murshidabad district (102.77 per cent) in West Bengal, the second one in Dangs district (107.57 per cent) in Gujarat and the other in Jhabua district (103.92 per cent) in Madhya Pradesh.

iv) In Andaman and Nicobar Islands the child-woman ratio also exceeds 100, the figure being 100.41 per cent.

In all, there are 40 districts where the child-woman ratio ranges between 90.01 to 100 per cent. Of these 7 are in Punjab, 6 each in Rajasthan and West Bengal, 4 each in Uttar Pradesh, Gujarat and Madhya Pradesh, 3 each in Assam and Bihar, 2 in Jammu and Kashmir and 1 in Mysore. It is interesting to note that these districts are adjacent to the districts having the next higher range (above 100) of child-woman ratio.

There are 125 districts in the country where the child-woman ratio varies between 80.01 to 90.00 per cent. A continuous stretch is discernible running from north west in Rajasthan (15 districts) with a vertical push towards Punjab (2) via Uttar Pradesh (27) and then descending southwards to Madhya Pradesh (29) Maharashtra (9) and Mysore (10). Another compact block is noticed in Bihar (7 districts) and West Bengal (6 districts). The remaining districts are scattered.

113 districts are grouped in the next range (70.01 to 80.00 per cent). They are mostly in the southern part of the country. A compact block is noticed comprising the districts of Karnataka Plateau (8), Tamilnad Upland (2), Maharashtra Plateau (10) and Telangana and Rayalaseema Plateaus (12). Continued with this block are the coastal districts of Kerala (7) and Madras (one in West coast). Many of the districts of the middle Gangetic valley (21) and some of the plateau and hill districts of north-eastern peninsula (12) fall within this range.

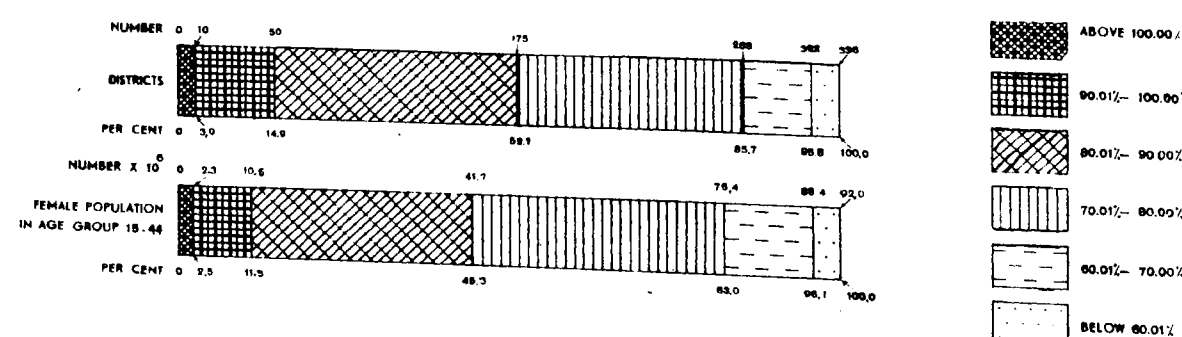
The child-woman ratio in the range 60.01 to 70.00 per cent is confined mostly in the districts of Madras (8), Andhra Pradesh (6), Orissa (4). They are the characteristics of the coastal districts and the western Himalayas. In all, 34 districts fall under this range.

There are only 14 districts where the child-woman ratio falls below 60.01 per cent. The child-woman ratio is the lowest in the metropolitan area of Calcutta (48.48 per cent). The other metropolitan areas like Greater Bombay (55.35 per cent) and Madras (57.10 per cent) have also very low figures.

Sl. No.	State/Union Territory	Adjusted population in age group 0—4	Female population in age group 15—44	Fertility differential
1	2	3	4	5
INDIA		72,549,717	91,955,735	78.90
STATES				
1	Andhra Pradesh	5,534,600	7,817,523	70.80
2	Assam	2,235,800	2,306,314	96.94
3	Bihar	8,019,100	9,861,399	81.32
4	Gujarat	3,549,800	4,286,529	82.81
5	Jammu and Kashmir	585,500	763,553	76.68
6	Kerala	2,670,300	3,611,850	73.93
7	Madhya Pradesh	5,704,200	6,886,009	82.84
8	Madras	4,912,300	7,668,356	64.06
9	Maharashtra	6,337,700	8,360,151	75.81
10	Mysore	3,964,400	4,873,928	81.34
11	Orissa	2,753,500	3,866,745	71.21
12	Punjab	3,456,100	3,869,588	89.31
13	Rajasthan	3,491,200	4,122,964	84.68
14	Uttar Pradesh	12,167,000	15,103,846	80.56
15	West Bengal	5,965,000	6,969,993	85.58
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	10,800	10,756	100.41
2	Delhi	418,400	525,664	79.59
3	Himachal Pradesh	199,300	287,558	69.31
4	Laccadive, Minicoy and Amindivi Islands	4,100	5,525	74.21
5	Manipur	136,200	167,423	81.35
6	Tripura	204,500	236,602	86.43
7	Dadra and Nagar Haveli*	11,000	12,226	89.97
8	Goa, Daman and Diu**	74,629	136,973	54.48
9	Pondicherry	54,000	83,845	64.40
10	North-East Frontier Agency	3,188	4,517	70.58
11	Nagaland	59,900	81,066	73.89
12	Sikkim	27,200	34,832	78.09

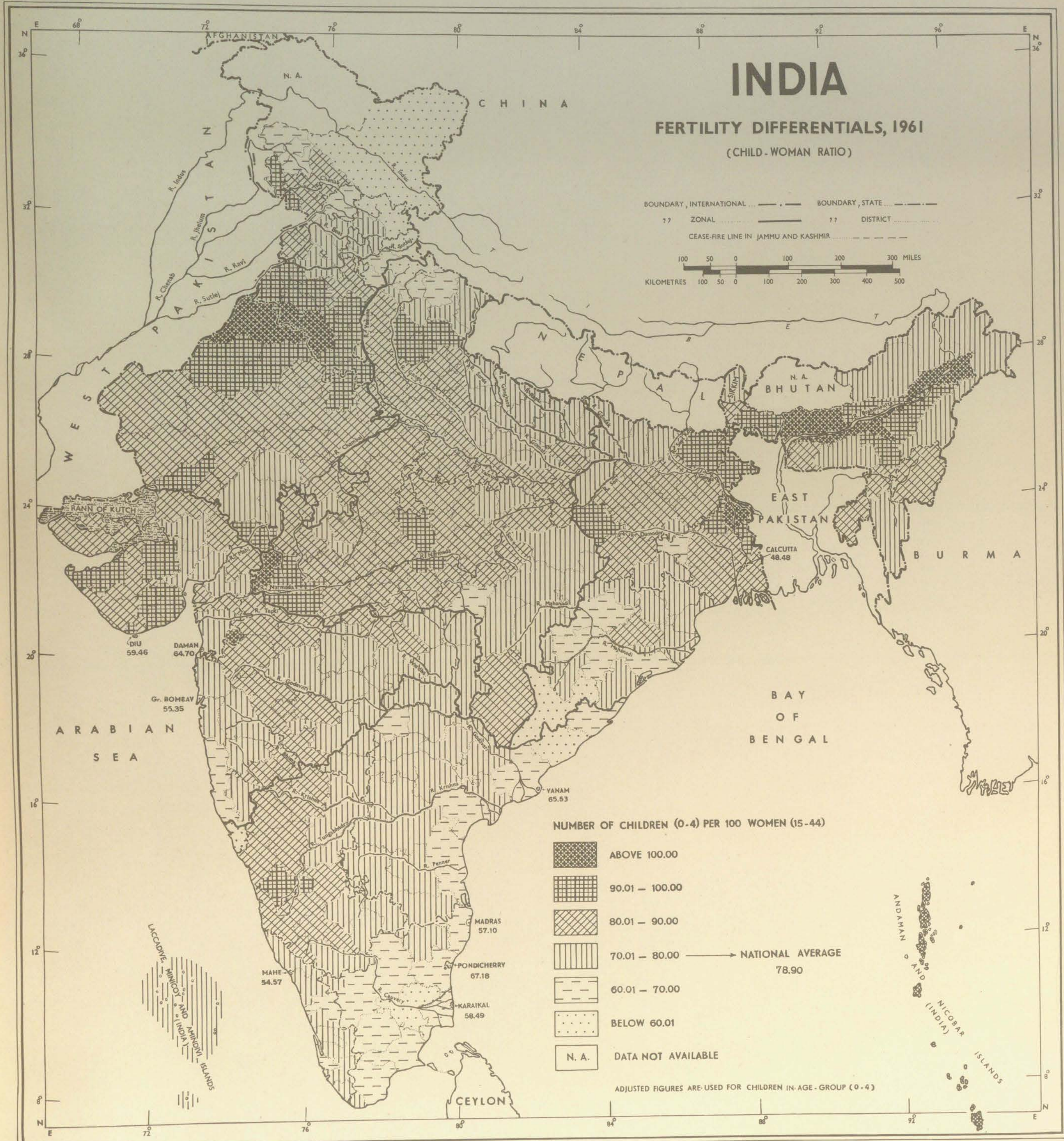
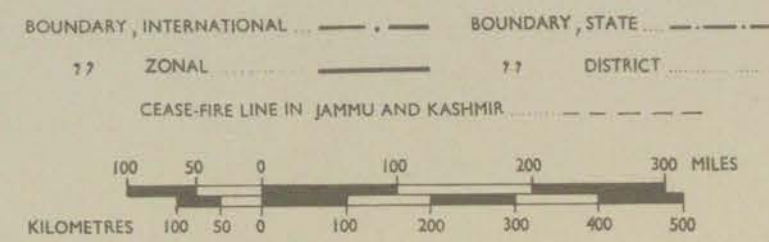
*Figures relate to the year 1962.
**Figures relate to the year 1960

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.

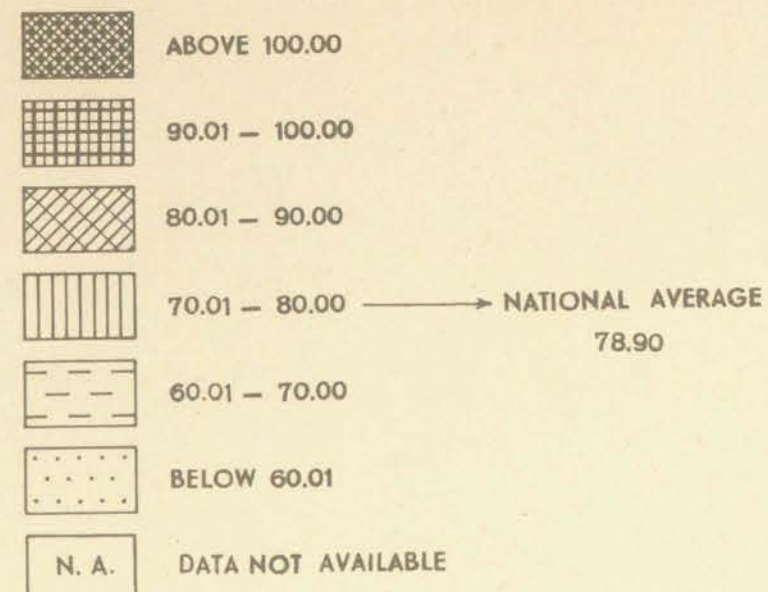


INDIA

FERTILITY DIFFERENTIALS, 1961 (CHILD-WOMAN RATIO)



NUMBER OF CHILDREN (0-4) PER 100 WOMEN (15-44)



ADJUSTED FIGURES ARE USED FOR CHILDREN IN AGE-GROUP (0-4)

Sex and Age Structure

MAP 24 SEX RATIO, 1961

Purpose : This map depicts the regional disparity in sex ratio in 1961.

Method : The sex ratios which are represented as the number of females per 1,000 males, are calculated for each district. They are then grouped into nine categories, two above and seven below the equality ratio.

Salient Features : The National Average for sex ratio is 941 females per 1,000 males. But a glance at the map reveals that the major part of the country shows a sex ratio with a male-bias and a few scattered areas with sex ratio of female-bias. Thus the map depicts the country with two categories of sex ratios.

The entire Northern Plain stretching from the Rajasthan desert to the Brahmaputra Valley, with the exception of a few districts in eastern Uttar Pradesh and western Bihar, has a population with a male-bias. Within this region, one finds areas whose population bears a remarkably high male-bias. These are the Brahmaputra Valley of Assam, the Damodar Valley area, the Hooghly basin of West Bengal, the Upper Ganga Valley in Uttar Pradesh, the Punjab Plain and Rajasthan. Reasons for this may be several. The tea-plantation industry induces a lot of movement of man power made up of mostly males from the neighbouring States to Assam. Similarly, the industrial areas around Calcutta and in Damodar Valley, attract male workers from other parts. Better employment opportunities may be the reason for the inflow of men from the hill-tracts to the Punjab Plain and Upper Ganga Plain. This fact is reflected in

the very sharp contrast in the sex ratios between the hilly areas in the North and the plains in Punjab and Uttar Pradesh.

The Plateau Region in the south, with the exception of the forested and hilly areas, also shows a male-bias. But the sex ratio is not as low as in the industrial belt of the Northern Plain. With the exception of tea and coffee plantation areas, the sex ratio in most parts of the south is nearer to the equality ratio.

The region with a female-bias is confined to the Western Coastal Plain, South-East Coastal Plain and tribal areas in Orissa, Andhra Pradesh, Madhya Pradesh, Mizo Hills in Assam, Manipur and the economically depressed areas in Bihar, Eastern Uttar Pradesh and Gujarat. The population in Western Coastal Plain and South-East Coastal Plain show a female-bias probably due to its very high density of population coupled with lesser employment opportunities, leading to the migration of male population from these areas to other parts.

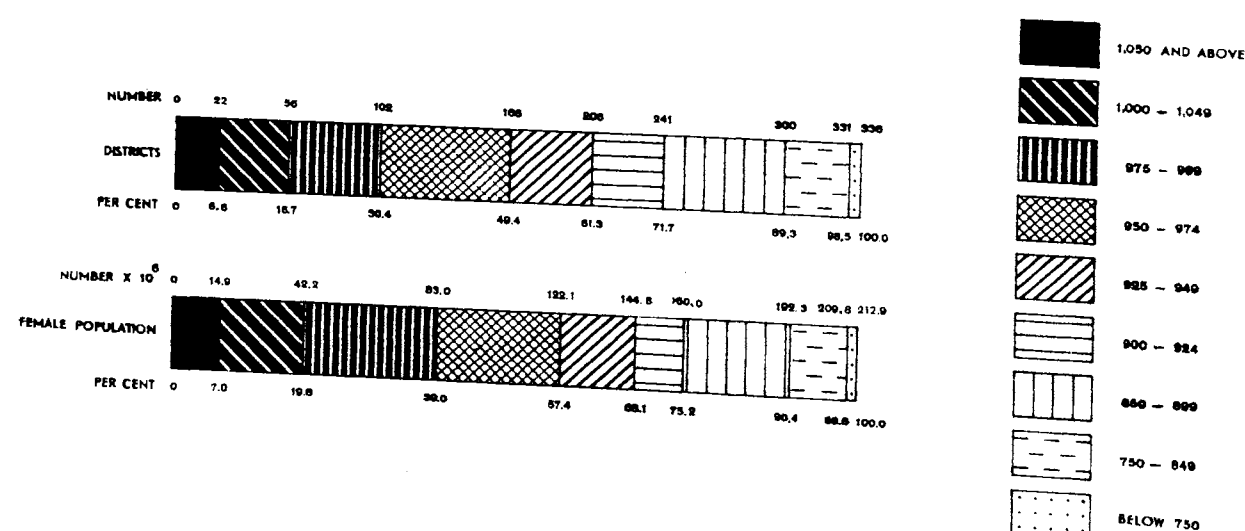
The hilly and forested tribal areas of Orissa, Manipur, Mizo Hills and Madhya Pradesh are significant by their high sex ratio. The reason for this high ratio may be attributed to natural increase of female population among animist tribes and higher mortality of the males.

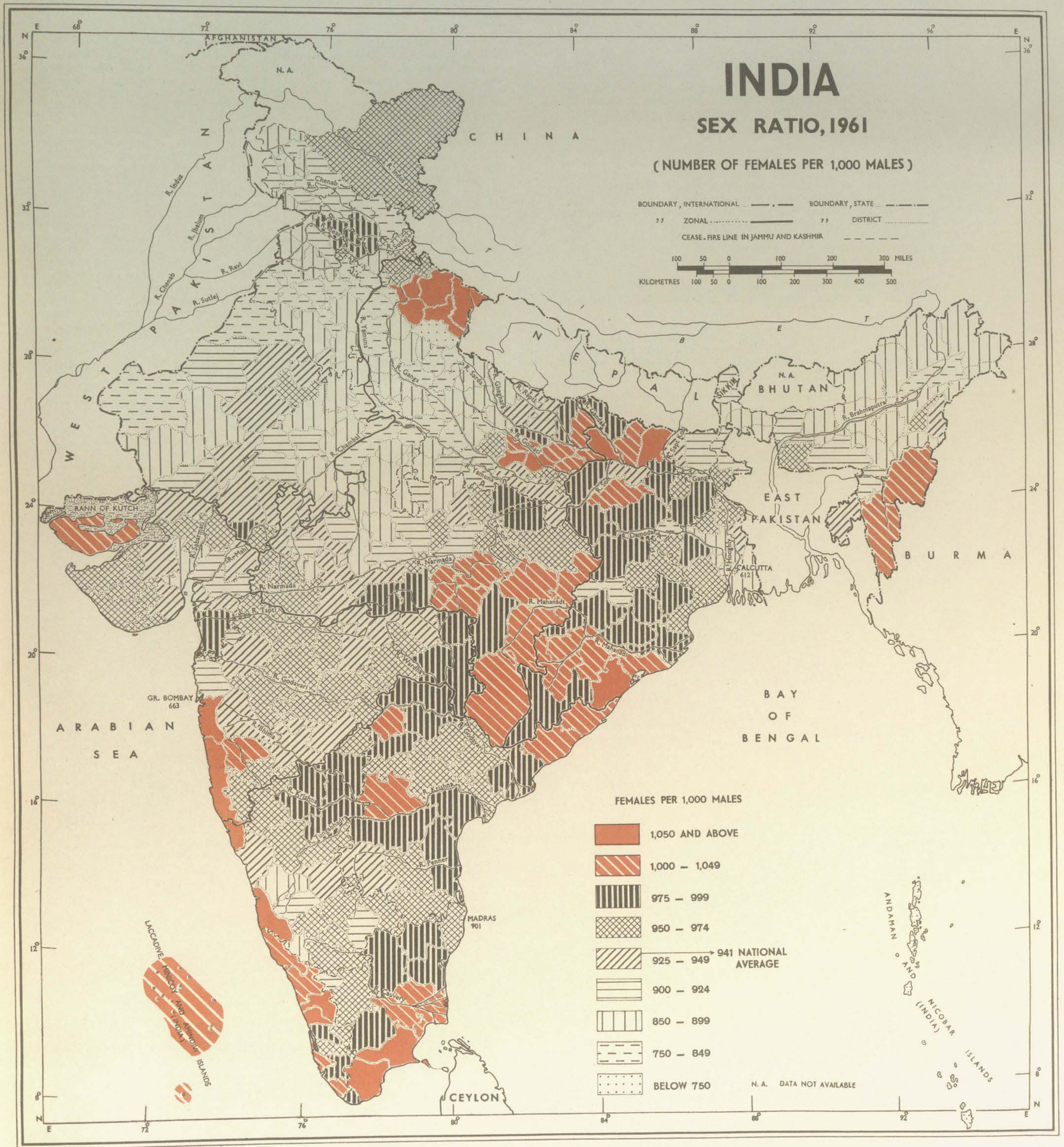
The following table shows the sex ratio (females per 1,000 males) figures for 1961.

Sl. No.	State/Union Territory	Males	Females	Females per 1,000 Males
1	2	3	4	5
	INDIA	226,293,201	212,941,570	941
	STATES			
1	Andhra Pradesh	18,161,671	17,821,776	981
2	Assam	6,328,129	5,544,643	876
3	Bihar	23,301,449	23,154,161	994
4	Gujarat	10,633,902	9,999,448	940
5	Jammu and Kashmir	1,896,633	1,664,343	878
6	Kerala	8,361,927	8,541,788	1,022
7	Madhya Pradesh	16,578,204	15,794,204	953
8	Madras	16,910,978	16,775,975	992
9	Maharashtra	20,428,882	19,124,836	936
10	Mysore	12,040,923	11,545,849	959
11	Orissa	8,770,586	8,778,260	1,001
12	Punjab	10,891,576	9,415,236	864
13	Rajasthan	10,564,082	9,591,520	908
14	Uttar Pradesh	38,634,201	35,112,200	909
15	West Bengal	18,599,144	16,327,135	878
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	39,304	24,244	617
2	Delhi	1,489,378	1,169,234	785
3	Himachal Pradesh	702,697	648,447	923
4	Laccadive, Minicoy and Amindivi Islands	11,935	12,173	1,020
5	Manipur	387,058	392,979	1,015
6	Tripura	591,237	550,768	932
7	Dadra and Nagar Haveli*	29,524	28,439	963
8	Goa, Daman and Diu**	302,534	324,133	1,071
9	Pondicherry	183,347	185,732	1,013
10	North-East Frontier Agency	177,680	158,878	894
11	Nagaland	191,027	178,173	933
12	SIKKIM	85,193	76,996	904

*Figures refer to the year 1962.
**Figures refer to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.





CHANGING PATTERN OF SEX RATIO, 1951-61

Purpose : Two maps on sex ratio for 1951 and 1961 are drawn for bringing out the changing pattern of sex ratios in the country during this decade.

Method : In each map, the district-wise sex ratios expressed as number of females per 1,000 males are plotted. Seven isopleth lines joining the points of similar sex ratios; three above and four below the equality line are drawn in both the maps. Areas in between the isopleth lines below this equality line are hatched from dark to light shades according to ranges of sex ratio from high to low in black, whereas those areas showing sex ratios above this line are hatched in red colour. These two maps are then juxtaposed for comparison.

Salient Features : During the decade 1951-61, there has been a slight decline in sex ratios from 946 females per 1,000 males in 1951 to 941 females per 1,000 males in 1961, but the overall distribution pattern of sex ratios in the country remains more or less the same. In both the years, 1951 and 1961 the country shows three different levels of sex ratios, i.e., (i) high male-biased sex ratio in the North-Western Plain and North-Eastern Hills, the Damodar Valley Region, the metropolitan cities of Bombay, Calcutta, Bangalore, Ahmedabad and their hinterland areas; (ii) highly female-biased sex ratio in the Eastern part of Peninsular Plateau and hills, the Western and North-Eastern littoral tracts, the Tamilnad Coastal Plain and Manipur Hills and (iii) a balanced sex ratio is visible more in the Peninsular part.

Though the overall sex ratio pattern remains almost unaltered during the decade 1951-61, the country witnessed some region-wise changes in the sex ratio pattern.

In 1951, there were four distinct highly male-biased regions in the northern part of the country—(i) the Baramulla district of Jammu and Kashmir; (ii) a continuous belt embracing the Ganganagar district of Rajasthan, Southern Punjab Plain and the Ganga-Yamuna *doab*; (iii) a region stretching from Pilibhit

district of Uttar Pradesh to Morena district of Madhya Pradesh and (iv) Jaisalmer district of Rajasthan.

In 1961, these four regions expanded further towards south and west and they included the districts of Jaipur, Kota and Bundi of Rajasthan and Sehore, Indore and Raisen districts of Madhya Pradesh. The progress in small scale industries surrounding Jaipur in Rajasthan and factory industries of Indore and Bhopal in Madhya Pradesh have, perhaps, resulted in the decrease of female population per 1,000 of males in these districts. A slight change is observed in the low sex ratio regions of Southern India. In 1951, a continuous strip of land embracing the districts of Shimoga, part of Chikmagalur, Hassan and Coorg of Mysore State and Nilgiris district of Madras State showed a very low sex ratio. In 1961, this belt broke into two separate pockets—one in Shimoga district and the other in Coorg district of Mysore. Ahmedabad district of Gujarat also witnessed a slight rise in sex ratio but the high male-biased regions of Damodar Valley, Calcutta industrial region and Bombay and its contiguous districts remained unchanged.

Turning towards the region with a high female-bias, it is observed that its size dwindled during this decade. In 1951, the north-eastern part of the Peninsula embracing whole of Orissa and Eastern Madhya Pradesh and coastal Andhra Pradesh showed a very high female-bias in their population, but in 1961 these areas of very high sex ratio decreased in size and the northern part of Orissa changed to male-bias. The reason for this change in northern Orissa is not far to seek. The growth of heavy industries and mining activities in this part brought a change in its sex ratio. Similarly, the region with a high sex ratio in Southern Tamilnad shrunk in size during this decade.

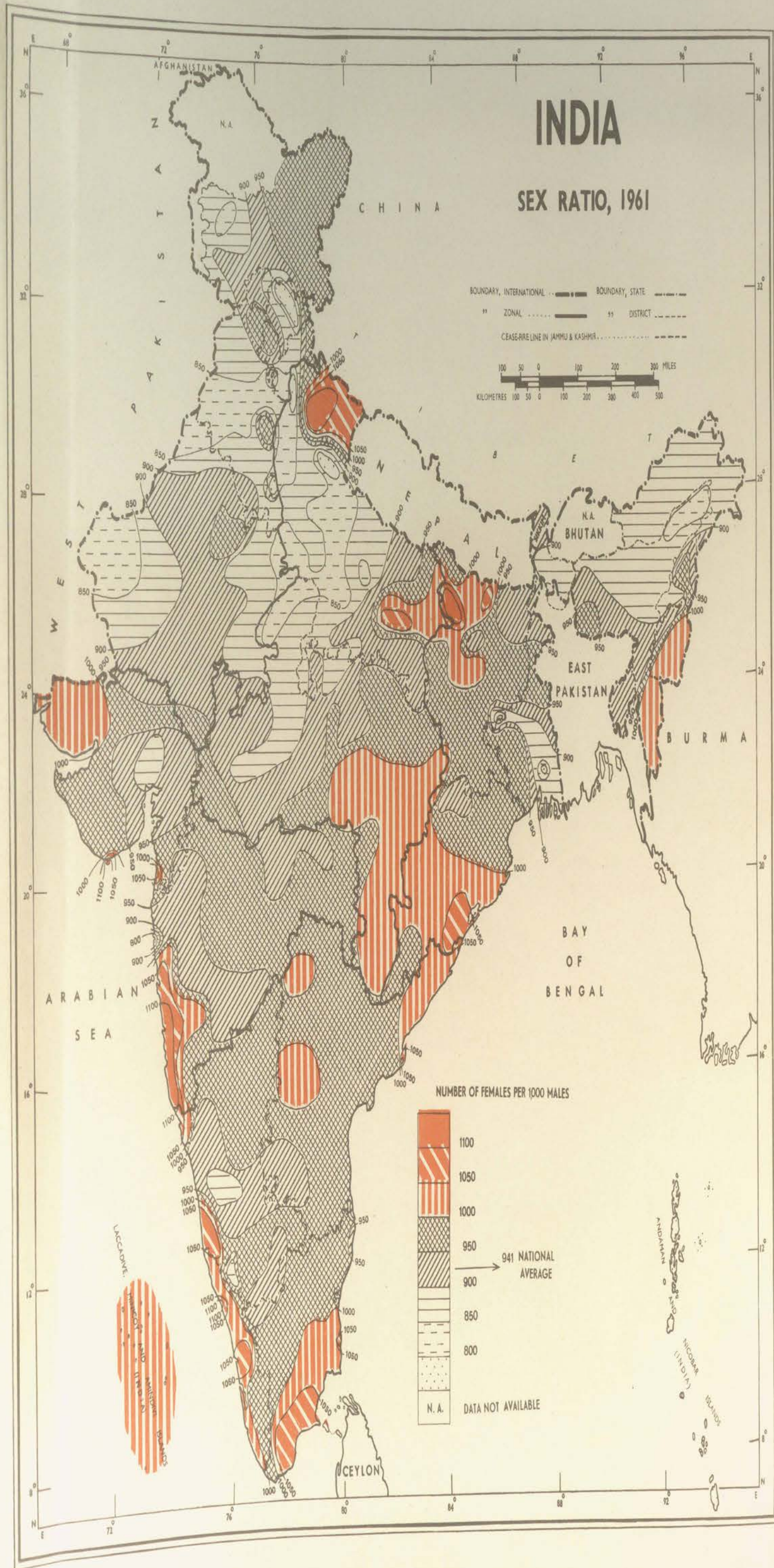
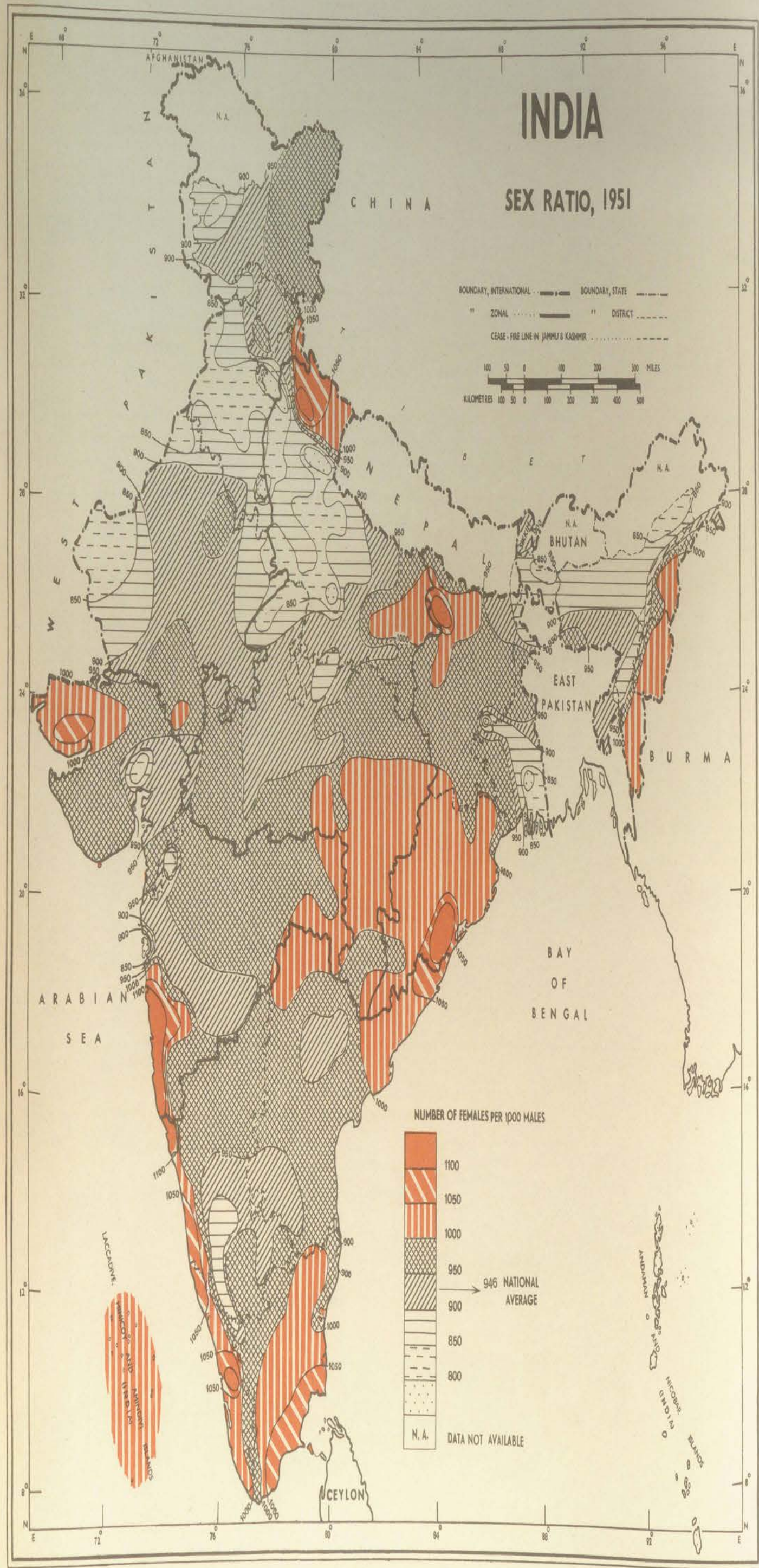
The table below gives sex ratio (females per 1,000 males) in each State/Union Territory in 1951 and 1961.

Sl. No.	State/Union Territory	Sex Ratio 1951	Sex Ratio 1961
1	2	3	4
	INDIA	946	941
	STATES		
1	Andhra Pradesh	986	981
2	Assam	877	876
3	Bihar	990	994
4	Gujarat	952	940
5	Jammu and Kashmir	873	878
6	Kerala	1,028	1,022
7	Madhya Pradesh	967	953
8	Madras	1,007	992
9	Maharashtra	941	936
10	Mysore	966	959
11	Orissa	1,022	1,001
12	Punjab	858	864
13	Rajasthan	921	908
14	Uttar Pradesh	910	900
15	West Bengal	865	878
	UNION TERRITORIES AND OTHER AREAS		
1	Andaman and Nicobar Islands	625	617
2	Delhi	768	785
3	Himachal Pradesh	915	923
4	Laccadive, Minicoy and Amindivi Islands	1,043	1,020
5	Manipur	1,036	1,015
6	Tripura	904	932
7	Dadra and Nagar Haveli	946*	963**
8	Goa, Daman and Diu	1,128*	1,071†
9	Pondicherry	1,030†	1,013
10	North-East Frontier Agency	N.A.	894
11	Nagaland	999	933
12	Sikkim	907	904

* Refers to the year 1950
 ** Refers to the year 1962
 † Refers to the year 1948
 ‡ Refers to the year 1960
 N.A.—Data Not Available.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

CHANGING PATTERN OF SEX RATIO, 1951-61



SEX RATIO IN RURAL POPULATION, 1961

Purpose : This map depicts the regional variation in sex ratio for rural population in India in 1961.

Method : Sex Ratio for rural areas depicted in this map are grouped into nine categories—two above and seven below the equality line as shown in the index to the map.

Salient Features : Rural India showed its overall sex ratio as 963 females per 1,000 males. Three distinct categories of sex ratios prevail in rural areas—i) ratios with excess of females over males; ii) ratios with excess of males over females and iii) equality of males and females.

Out of 335 districts in India and Sikkim nearly one-fourth showed a sex ratio with a very high female-bias in rural population. They appear in three distinct belts—(i) the hill areas of Uttar Pradesh and north of Bihar; (ii) the entire East Coast with break at Krishna-Godavari delta and Chingleput and South Arcot districts and the West Coast Region with the exception of Thana, North Kanara, Kottayam and Quilon districts and (iii) a compact zone forming the eastern rim of the Deccan Plateau covering the hills and plateau region of Amarkantaka and Bastar, the Chhattisgarh Basin and the Chotanagpur Plateau of Bihar. Sex ratio in the hill areas is female-biased due to the emigration of their male population to the plain areas of Punjab, Uttar Pradesh and Bihar in search of gainful employment. In the coastal districts also females exceed males because of the exodus of male labour force to other parts of the country. Sex ratio is female-biased in rural areas of the States of Bihar, Andhra Pradesh and Madhya Pradesh from where considerable amount of out-migration

of male population of employable age to the adjoining industrial and urban areas took place. It is rather interesting to note that the sex ratio with a high female-bias in rural areas is observed in Manipur, Mizo Hills district of Assam and a few tribal districts of Madhya Pradesh and Orissa.

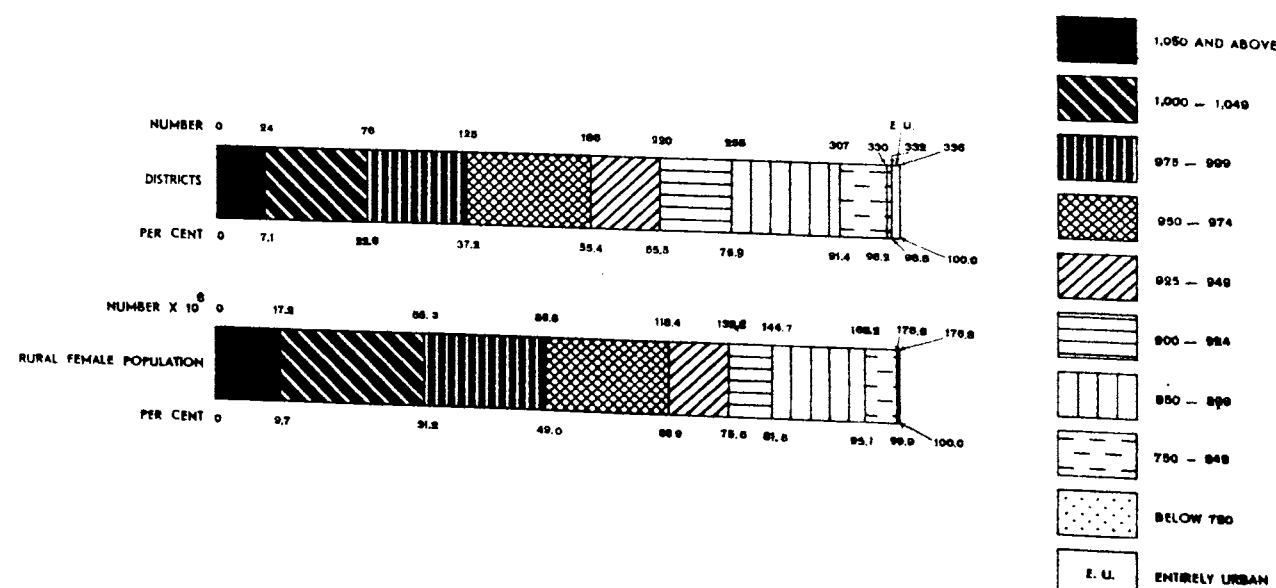
There are two distinctive areas which are conspicuous by the high male-biased sex ratios among the rural population. These are—i) the Northern plain stretching from Rajasthan and Punjab to the central Uttar Pradesh and ii) the Brahmaputra Valley of Assam. The mobility of the male labour force from the adjoining hill tracts in quest of their livelihood has, perhaps, resulted in the excess of males over females in rural areas. In the Assam Valley and North-Bengal Plain, on the other hand, the males exceed females to a considerable extent on account of the tea-plantation industry attracting male labour force from its adjoining states as well as from other parts of the country. In addition to these two regions, a remarkably high male-biased sex ratio in rural population is observed in the mining districts of Damodar valley, embracing Dhanbad and Burdwan districts. The rural areas in Dhanbad district dotted with coal-mining centres attract male labour force in good number from the neighbouring districts.

The rest of the country exhibits more or less a balanced sex ratio, which is, however, more frequent in the Deccan Plateau than in the Northern Plain. Excepting the two littoral tracts in the East and West, the whole of Deccan Plateau embracing the States of Madras, Andhra Pradesh, Mysore and Maharashtra showed female and male population in rural areas almost in equal number.

Sl. No	State/Union Territory	Males 1961	Females 1961	Sex Ratio 1961
1	2	3	4	5
INDIA		183,504,095	176,794,073	963
STATES				
1	Andhra Pradesh	14,945,712	14,763,227	988
2	Assam	5,783,675	5,176,069	895
3	Bihar	21,140,292	21,401,398	1,012
4	Gujarat	7,830,222	7,486,504	956
5	Jammu and Kashmir	1,574,946	1,392,715	884
6	Kerala	7,079,168	7,270,406	1,027
7	Madhya Pradesh	14,085,038	13,660,136	970
8	Madras	12,331,586	12,364,839	1,003
9	Maharashtra	14,230,934	14,160,223	995
10	Mysore	9,287,660	9,032,619	973
11	Orissa	8,156,598	8,282,598	1,015
12	Punjab	8,637,284	7,580,933	878
13	Rajasthan	8,820,880	8,053,244	913
14	Uttar Pradesh	33,401,345	30,865,161	924
15	West Bengal	13,579,044	12,806,393	943
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	30,358	19,115	630
2	Delhi	161,992	137,212	847
3	Himachal Pradesh	665,730	621,486	934
4	Laccadive, Minicoy and Amindivi Islands	11,935	12,173	1,020
5	Manipur	352,937	359,383	1,018
6	Tripura	536,580	502,428	936
7	Dadra and Nagar Haveli*	29,524	28,439	963
8	Goa, Daman and Diu**	252,440	273,563	1,084
9	Pondicherry	139,989	140,093	1,001
10	North-East Frontier Agency	177,680	158,878	894
11	Nagaland	179,261	170,782	953
12	SIKKIM	81,285	74,056	911

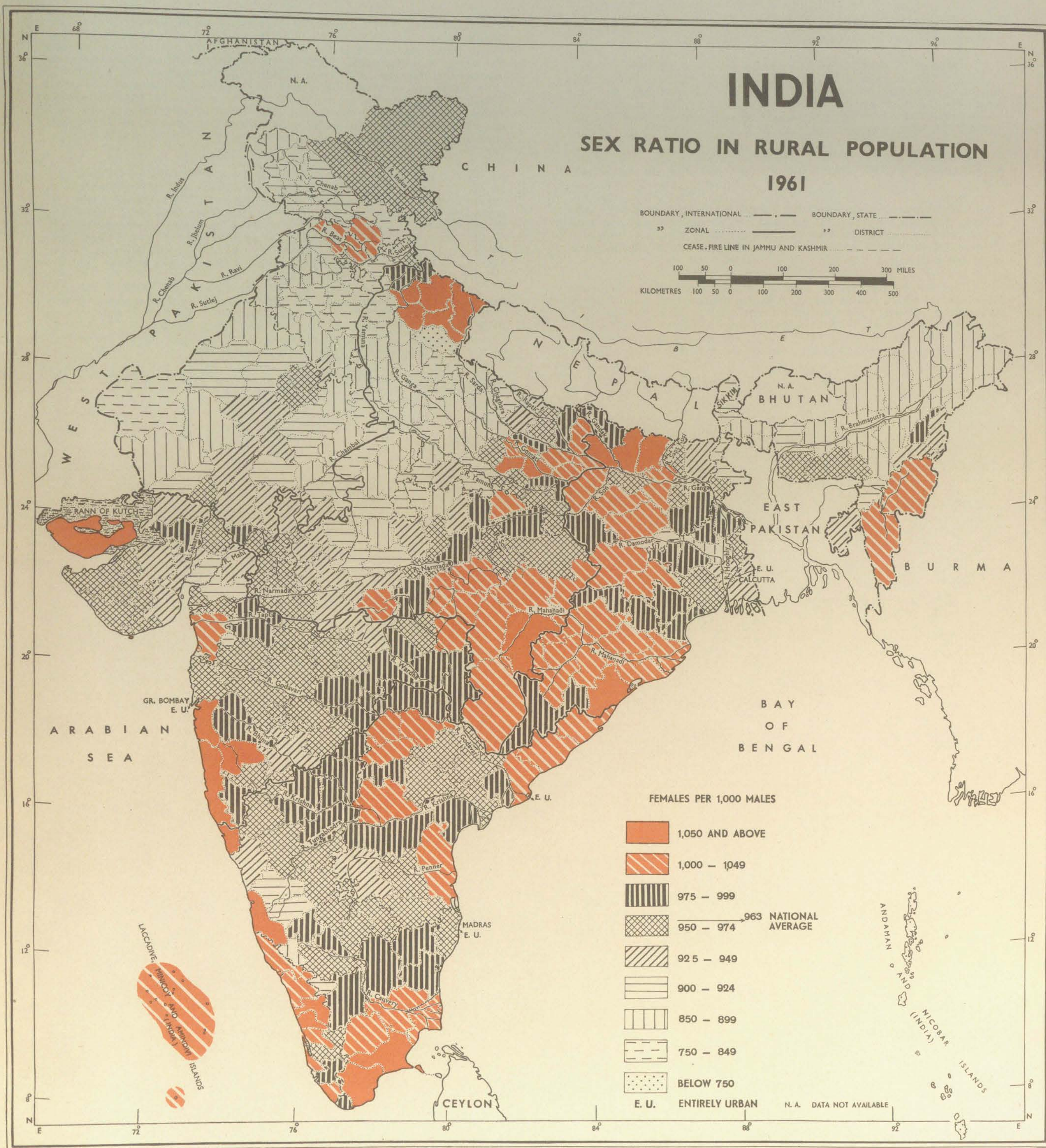
* Figures relate to the year 1962.
** Figures relate to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



INDIA

SEX RATIO IN RURAL POPULATION 1961



SEX RATIO IN URBAN POPULATION, 1961

Purpose : This map illustrates disparity in sex ratios (females per 1,000 males) for the various urban centres of India in 1961.

Method : Towns and cities proportionate to their sizes are plotted in this map. The sex ratio of all towns for this map are grouped into three categories—very high male-bias (799 & below), male-bias (800—999) and female-bias (1,000 and above). Female-biased towns are shown in red colour, and male-biased and very high male-biased towns are shaded in black and blue colours respectively.

Salient Features : Of the 2,700 cities and towns in 1961, 71.26 per cent show male-bias, 14.93 per cent very high male-bias and 13.81 per cent female-bias.

A glance at the map reveals that female population has outnumbered males in the Kutch and Kathiawar Peninsula, western and eastern littoral tracts and the southern parts of the Peninsula, while the males outnumber females in the entire Northern Plain, north-west and central plateau and highlands region of the Peninsula.

The distribution pattern of urban sex ratios reveals that except for the Eluru town of West Godavari district of Andhra Pradesh, the sex ratios of all the remaining 106 class I towns are male-biased. Among 7 metropolitan cities, the number of males per 1,000 females is the lowest in Calcutta (612) followed by Greater Bombay (663) and Delhi (788). The gravitational pull of manpower by the industrial belt of Calcutta and its conurbation areas has attracted

males to this city in greater numbers. For similar reasons, sex ratios of Greater Bombay and its satellite towns, the city of Delhi and oil refinery town of Gauhati are highly male-biased. In the metropolitan cities of the Southern Peninsula, viz., Hyderabad (942), Madras (901) and Bangalore (876), the number of females per 1,000 males is much higher compared to the cities and the towns mentioned above. The same trend is revealed in most of the class I cities of this region. The reason for this may be attributed to the movement of males in relatively large numbers from south to north particularly to the cities and towns which have better employment opportunities in the wake of industrialization. All big cities and towns in the Northern Plain show either low or very low sex ratios.

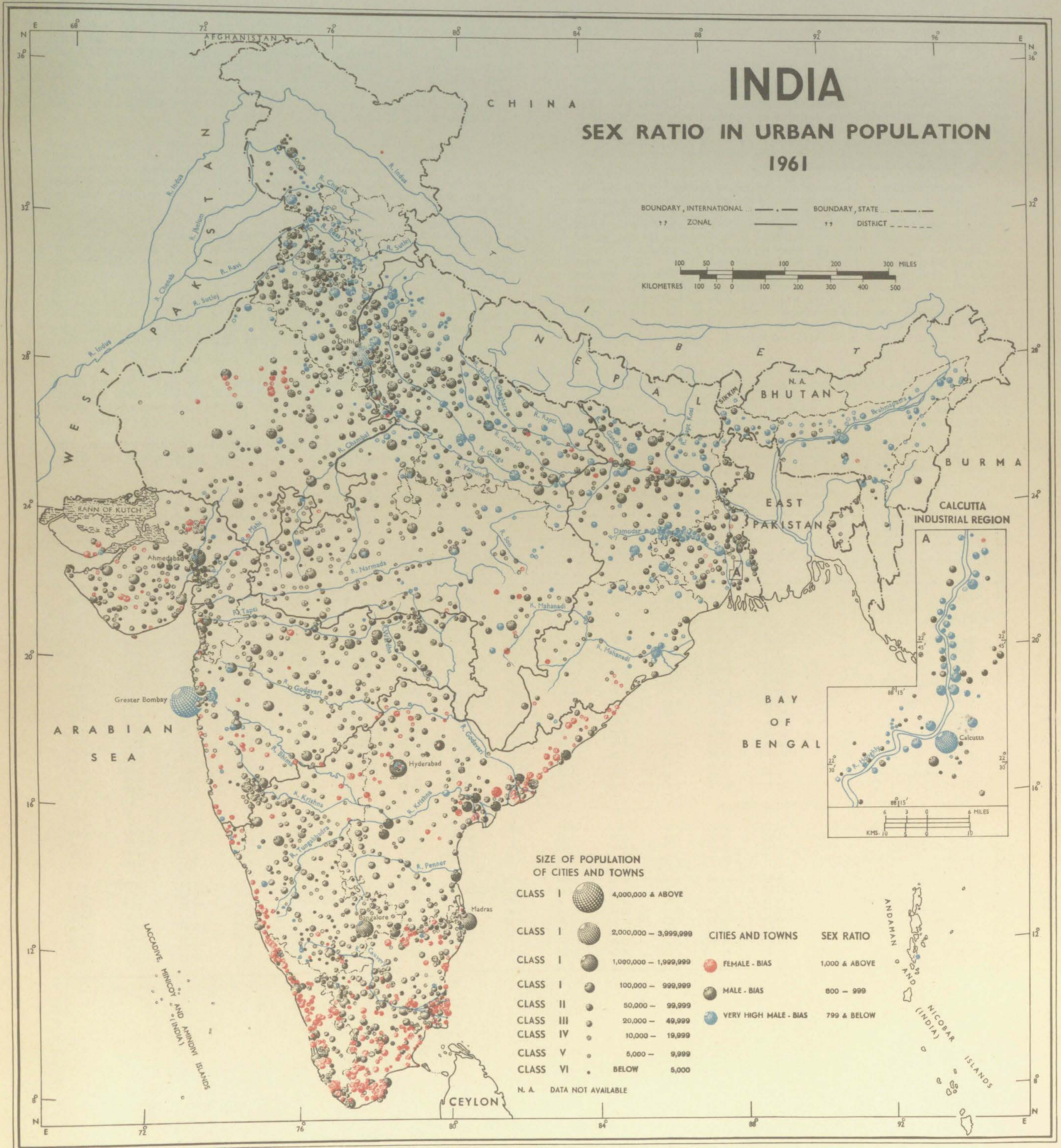
The functional characters of some towns are well reflected in their sex ratios. For example, the industrial towns of Rourkela in Orissa, Bhilai in Madhya Pradesh, Dibrugarh in Assam, Vijayapuri and Secundrabad Cantt. in Andhra Pradesh and mining town of Dhanbad in Bihar show very high male-biased sex ratios. Besides these, many of the Cantonment towns and project towns fall in this category. Some of these are, Chakrata (233) in Dehra Dun (Uttar Pradesh), Ahmedabad Cantonment (457) in Gujarat, Durgapur Steel Project area (332), and Durgapur Coke Oven Plant Area (369) in West Bengal.

The map also shows that sex ratio is highly male-biased in class VI towns (28.36 p.c.). The reason may be attributed to their nearness to the conurbation areas of metropolitan cities or plantation areas or project townships, where the predominance of male population will be obvious. Selaiyur in Chingleput district of Madras, a satellite town of Tambaram is a service centre, which recorded the lowest sex ratio in the country (77).

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

SEX RATIO IN URBAN POPULATION 1961



SEX AND AGE—STRUCTURE, 1961

Purpose : This map depicts the sex and age structure of male and female population for each of the States and Union Territories as revealed by the 1961 Census.

Method : Age pyramids are drawn in the centre of each State/Union Territory with bars proportionate to the male population on different quinquennial age groups on the left hand side and female population on the right hand side of two parallel vertical lines inside which age groups are inserted. The scales are given both in absolute and percentage figures at the top and bottom of the horizontal bars of the pyramids. Male and female populations are categorised according to the age groups as—infants (0—4 years); boys and girls (5—14 years); young men and women (15—34 years); middle-aged men and women (35—59 years) and old men and women (60+).

Salient Features : Following are the salient features of the sex and age structure of the population as depicted in the map: 1) Each State shows a pyramidal shape of the sex and age structure of its population. There is a gradual decrease of population from younger age to older age for both males and females but there are some irregularities in the length of the bars in the age group 15—34 years; 2) The entire country except for a few Union Territories shows that the proportion of population of age group 0—14 is nearly four times the size of population of older age group (above 60 years). This indicates that the population in the country is increasing at a fast rate; 3) All the States other than Punjab, West Bengal and the five Union Territories (Delhi, Himachal Pradesh, Nagaland, Andaman and Nicobar Islands and N.E.F.A.) show their population in the age group 20—24 years as female-biased; 4) In the State of Punjab and Union Territories of Delhi and N.E.F.A., people in all age groups are male-biased.

All over the country the infants of age group 0—4 years account for 10 to 18 per cent of the total population. Except for four States and five Union Territories the country shows that male infants outnumber female infants. The male-bias among infants is exceptionally high in the State of Punjab and the Union Territory of Delhi indicating that female infants have higher mortality rate.

The boys and girls of age group 5—14 years account for 22 to 28 per cent of the total population throughout the country except in the Union Territories

of Andaman and Nicobar Islands (20.2 per cent) and N.E.F.A. (9.4 per cent) where the proportion is less because a significant proportion of the population is made up of migrants of age group exceeding 15 years. In this age group (5—14 years), males outnumber females, perhaps, due to higher mortality rate of the latter sex. It is worthnoticing that in the States of Mysore, Andhra Pradesh, Bihar, Orissa and West Bengal and the Union Territories of Goa, Daman and Diu, Nagaland and Sikkim, the children in the age group 5—9 years exceed those in the age group 0—4 years indicating a slight decline in the natural growth-rate of population of these areas.

Almost in all the States and Union Territories, the proportion of population in the age group 15—34 years is between 30 to 37%. It becomes somewhat higher in the Union Territories of N.E.F.A. (63.7%) and Andaman and Nicobar Islands (41.9%), perhaps, due to the migratory effect upon population. Within this age group (15—34 years), there is a male-bias in nine States and six Union Territories.

The middle-aged men and women in the age group 35—59 years account for 21.26% of the total population in the country. In this age group, males outnumber the females all over the country except Laccadive, Minicoy and Amindivi Islands and Goa, Daman and Diu.

It is worthnoticing that the proportion of male population of this age group is significantly high in N.E.F.A. This disproportionate share of male and female population in this age group (35—59 years) in N.E.F.A. is, perhaps, due to immigration of male population from other States for specific employments.

The old men and women (age group 60+) account for less than 7% of the total population in all the States and Union Territories except Himachal Pradesh and Goa, Daman and Diu. This low proportion indicates a low expectation of life in the country.

The following table shows the percentage distribution of males and females in each quinquennial age group to total population of each State/Union Territory.

Percentage Distribution of males and females in each quinquennial age group to total population by Sex, 1961

Sl. No.	State/Union Territory	All ages		0—4		5—14		15—34		35—59		60+		Age not stated	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	INDIA	51.52	48.48	7.56	7.50	13.52	12.45	16.25	15.79	11.35	9.91	2.82	2.81	0.02	0.02
	STATES														
1	Andhra Pradesh	50.47	49.53	6.92	6.98	13.02	12.61	15.93	16.30	11.51	10.48	3.08	3.15	0.01	0.01
2	Assam	53.30	46.70	8.37	8.67	14.39	13.38	16.91	15.33	11.16	7.43	2.43	1.86	0.04	0.03
3	Bihar	50.16	49.84	7.64	7.76	14.13	12.77	15.02	15.85	10.78	10.42	2.68	3.03	0.01	0.01
4	Gujarat	51.54	48.46	8.04	7.81	14.23	12.79	16.38	15.63	10.54	9.60	2.33	2.61	0.02	0.02
5	Jammu and Kashmir	53.26	46.74	7.49	7.30	13.53	12.30	17.41	16.43	11.75	8.52	2.98	2.09	0.10	0.10
6	Kerala	49.47	50.53	7.57	7.39	14.01	13.67	14.76	16.18	10.33	10.24	2.79	3.04	0.01	0.01
7	Madhya Pradesh	51.21	48.79	8.19	8.16	12.76	11.68	16.68	16.00	11.19	10.13	2.36	2.80	0.03	0.02
8	Madras	50.20	49.80	6.86	6.83	12.09	11.83	16.10	16.91	12.34	11.44	2.81	2.79	0.00	0.00
9	Maharashtra	51.65	48.35	7.57	7.44	13.18	12.46	16.88	16.01	11.41	9.74	2.59	2.88	0.02	0.02
10	Mysore	51.05	48.95	7.42	7.37	13.76	13.59	15.69	15.64	11.29	9.47	2.87	2.86	0.02	0.02
11	Orissa	49.98	50.02	6.92	7.26	12.73	12.17	16.11	16.47	11.61	10.99	2.57	3.09	0.04	0.04
12	Punjab	53.64	46.36	8.20	7.62	14.82	12.91	16.09	14.54	10.60	8.61	3.90	2.66	0.03	0.02
13	Rajasthan	52.41	47.59	8.15	7.92	14.17	12.39	16.62	15.49	10.80	9.24	2.63	2.51	0.04	0.04
14	Uttar Pradesh	52.39	47.61	7.54	7.32	13.74	11.87	16.06	15.28	11.73	10.13	3.30	2.99	0.02	0.02
15	West Bengal	53.25	46.75	7.43	7.60	13.45	12.44	17.91	15.39	11.98	8.77	2.46	2.54	0.02	0.01
	UNION TERRITORIES AND OTHER AREAS														
1	Andaman and Nicobar Islands	61.85	38.15	8.03	8.03	10.41	9.80	28.41	13.50	13.38	5.68	1.62	1.14	0.00	0.00
2	Delhi	56.02	43.98	7.66	7.20	13.65	11.96	20.67	15.62	11.68	7.38	2.34	1.80	0.02	0.02
3	Himachal Pradesh	52.01	47.99	7.07	6.98	12.25	11.77	16.37	16.11	12.08	10.01	4.23	3.11	0.01	0.01
4	Laccadive, Minicoy and Amindivi Islands	49.51	50.49	7.26	7.04	13.91	12.70	15.63	17.37	10.32	10.80	2.39	2.58	0.00	0.00
5	Manipur	49.62	50.38	7.76	7.84	13.99	13.53	15.29	16.41	9.84	9.55	2.64	2.94	0.10	0.11
6	Tripura	51.77	48.23	8.35	8.48	13.45	12.58	15.65	16.11	11.38	8.57	2.93	2.48	0.01	0.01
7	Dadra and Nagar Haveli	50.94	49.06	8.64	9.27	13.46	12.30	15.42	16.00	11.39	9.45	2.01	2.00	0.02	0.04
8	Goa, Daman and Diu	48.28	51.72	6.00	5.91	12.94	12.41	15.46	15.83	10.62	12.77	3.26	4.80	0.00	0.00
9	Pondicherry	49.68	50.32	7.14	7.10	11.26	11.17	15.40	16.71	12.45	11.89	3.42	3.44	0.01	0.01
10	North-East Frontier Agency	79.01	20.99	4.28	3.96	5.62	3.87	53.47	10.23	14.46	2.47	0.56	0.39	0.72	0.07
11	Nagaland	51.74	48.26	6.04	6.31	13.57	12.77	17.01	16.53	11.42	9.40	3.64	3.16	0.06	0.09
12	SIKKIM	52.53	47.47	6.42	6.45	13.53	13.14	19.41	16.88	10.67	8.55	2.45	2.41	0.05	0.04

Source : Census of India, 1961, Vol. I, India, Part II-C (i)—Social and Cultural Tables.



YOUTHFULNESS OF POPULATION, 1961 (Percentage of Population in age group 5—14)

Purpose : This map intends to depict the youthfulness of the population in India as revealed by the census.

Method : For each district, youthfulness of population is measured by the proportion of population in age group 5—14 to the total population and the percentage figures thus obtained are grouped into six categories—three above; one nearer to and two below the National Average (25.97%). The districts are then shaded from dark to light to represent high to low proportion of youthful population.

Salient Features : Youthfulness of population is an important indicator of socio-economic development in a country. It is in inverse relationship with economic wealth. In 1961, out of 439 millions of population in India nearly 25.97% is in the age group 5—14. It shows that roughly one-fourth of the population in the country was very young. This high proportion of youthful population is, in fact, an indicator of high growth-rate and high increase in the size of employable population and increasing pressure of population on economic resources of the country in the coming years.

A glance at the map reveals that a very high proportion (>28%) of youthful population to the total is visible in 31 districts dispersed all over the country. Kerala, Rajasthan, Punjab and Assam States have atleast four districts each with a high proportion of youthful population. The remaining districts are in Mysore (3) and two each in Bihar, Uttar Pradesh and West Bengal one

each in Maharashtra, Pondicherry and Nagaland. It is worthnoticing that six States—Madhya Pradesh, Orissa, Andhra Pradesh, Madras, Jammu and Kashmir and Gujarat do not have a single district falling under this range.

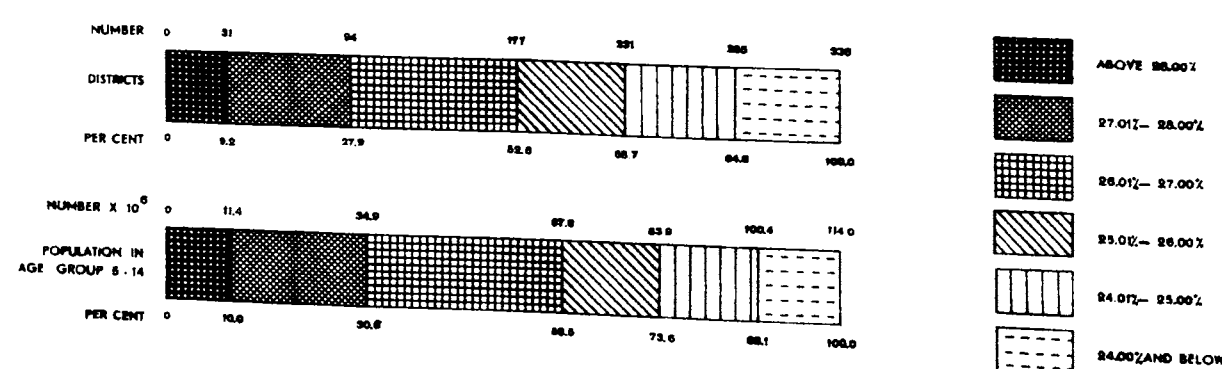
The percentage of youthful population is high (27.01—28.00 per cent) in 63 districts in the country. Except for the 9 districts in the east, they occur in the north, north-west and southern parts of the country. In this range three compact regions are discernible, viz., (i) the area covering 16 districts in Punjab and Western Rajasthan; (ii) the region embracing 12 districts of Gujarat with 1 adjoining district of Maharashtra (Jalgaon) and (iii) the region comprising 6 districts in southern Maharashtra and 3 districts in northern Mysore. The remaining 16 districts having youthful population in this range are sporadic in distribution. In 83 districts the proportions of youthful population are in the range of 26.01—27.00 per cent. These districts are generally found in the contiguous regions of the former range and are concentrated in the east covering 10 districts of Bihar, 4 districts of Orissa and 6 districts of West Bengal and also in the southern and Western parts of the country.

Near about 16% of the districts record the proportion of youthful population nearer to the National Average (25.97%). Their occurrences are more in the north than in the south. The proportion of youthful population is distinctly low (<25%) in the Himalayan area—hill districts of Uttar Pradesh and Jammu and Kashmir States, North-East Frontier Agency, Madhya Pradesh, the Wainganga basin of Maharashtra, Southern coast of Andhra Pradesh and Madras State.

Sl. No.	State/Union Territory	Total population 1961	Population in age group 5—14 1961	Percentage of population in age group 5—14 to total population
1	2	3	4	5
INDIA*		438,936,918	113,980,144	25.97
STATES				
1	Andhra Pradesh	35,983,447	9,224,996	25.64
2	Assam	11,872,772	3,298,186	27.78
3	Bihar	46,455,610	12,495,293	26.90
4	Gujarat	20,633,350	5,575,323	27.02
5	Jammu and Kashmir	3,560,976	919,454	25.82
6	Kerala	16,903,715	4,678,209	27.68
7	Madhya Pradesh	32,372,408	7,913,169	24.44
8	Madras	33,686,953	8,057,402	23.92
9	Maharashtra	39,553,718	10,142,716	25.64
10	Mysore	23,586,772	6,452,716	27.36
11	Orissa	17,548,846	4,369,236	24.90
12	Punjab	20,306,812	5,630,204	27.73
13	Rajasthan	20,155,602	5,354,581	26.57
14	Uttar Pradesh	73,746,401	18,889,772	25.61
15	West Bengal	34,926,279	9,041,214	25.89
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	63,548	12,839	20.20
2	Delhi	2,658,612	681,096	25.62
3	Himachal Pradesh	1,351,144	324,627	24.03
4	Laccadive, Minicoy and Amindivi Islands	24,108	6,414	26.61
5	Manipur	780,037	214,725	27.53
6	Tripura	1,142,005	297,336	26.04
7	Dadra and Nagar Haveli**	57,963	14,936	25.77
8	Goa, Daman and Diu†	626,667	158,823	25.34
9	Pondicherry	369,079	82,746	22.42
10	North-East Frontier Agency*	38,705	3,635	9.39
11	Nagaland	369,200	97,238	26.34
12	SIKKIM	162,189	43,259	26.67

*Excludes 297,853 population and its corresponding population in col. 4 of that portion of N.E.F.A., where All-India Census schedule was not canvassed.
**Figures relate to the year, 1962.
†Figures relate to the year, 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.



INDIA

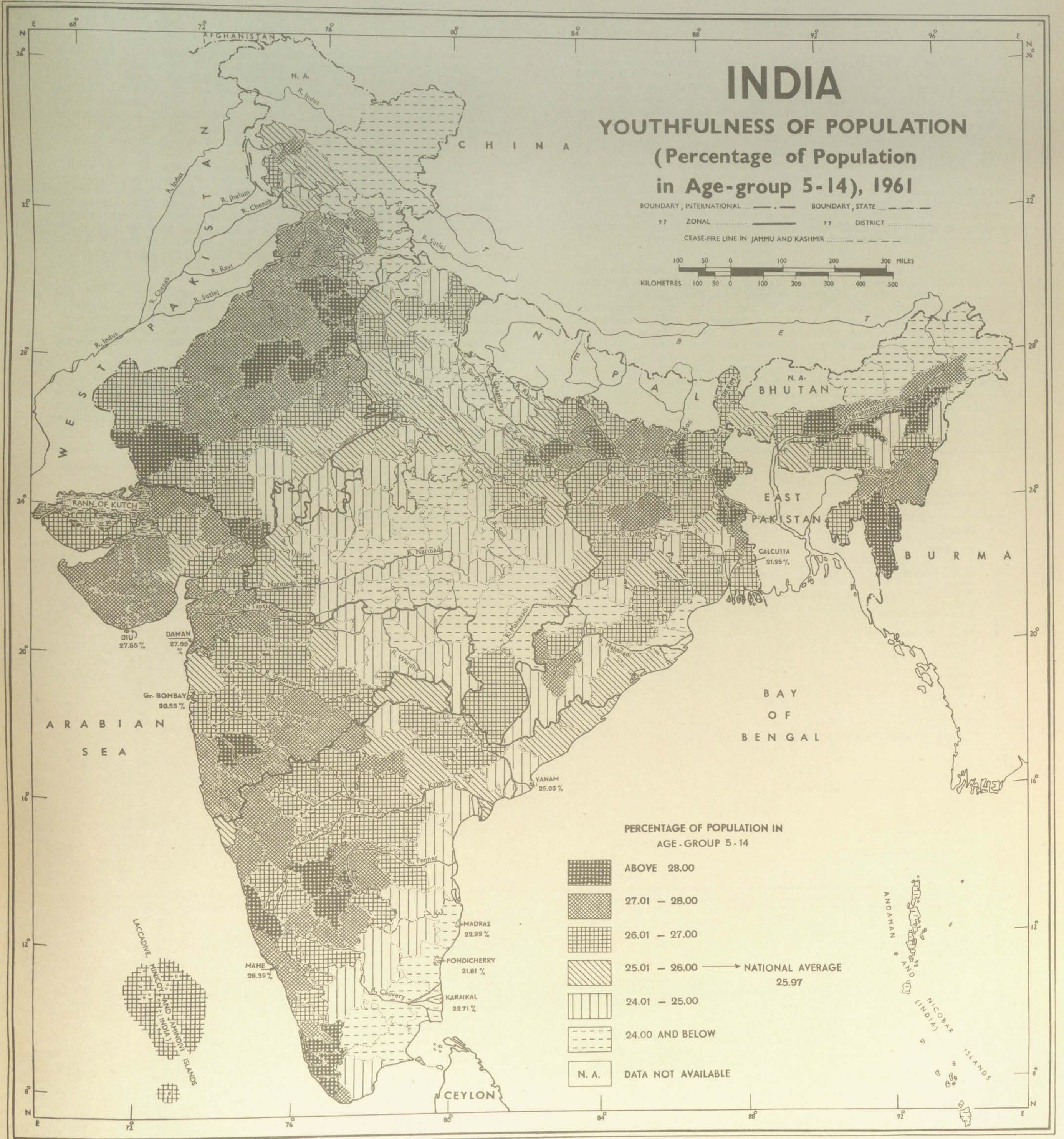
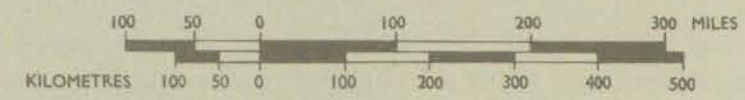
YOUTHFULNESS OF POPULATION

(Percentage of Population
in Age-group 5-14), 1961

BOUNDARY, INTERNATIONAL BOUNDARY, STATE

77 ZONAL 77 DISTRICT

CEASE-FIRE LINE IN JAMMU AND KASHMIR



**PROPORTION OF MALE POPULATION IN WORKING
AGE GROUP 15—59, 1961**

Purpose : This map shows the proportion of males in the age group 15—59 to the total male population in each State/Union Territory during 1961.

Method : The percentage figures of male population of working age group 15—59 to total male population for each State and Union Territory are grouped into five ranges as displayed in the map by different grades of hatching. The total male population of each State and Union Territory is shown by proportionate circles and the shaded sectors therein show the proportion of male population of working age group 15—59. The total male population figures are given at the top of each circle.

Salient Features : The proportion of male population in working age group 15—59 actually indicates approximately how much employable male population is available in each of the States and Union Territories. However, this proportion includes a small portion of whole time students and invalid persons. In the country as a whole, the proportion of male population of working age group to total male population is only 53.58% but a large number of States and Union Territories have recorded percentages above it.

Out of 27 States and Union Territories of the country, only seven States and Union Territories sharing about 17 per cent of the country's working male population exhibit a high proportion of male population of working age group—above 56.00%. The proportion is high in the Union Territory of Delhi (57.74%) which is, perhaps, due to migration of male population of working age group from other parts of the country. Among the densely populated States, West Bengal shares 56.13 per cent which can be attributed to the gravitational pull of man-power by its commerce and industries from the adjoining States. The same reason may be attributed to the high proportion of males of working age group in Madras (56.65%) and Pondicherry (56.07%). The proportions are also high in the remaining Union Territories—North-East Frontier Agency (85.98%) and Andaman and Nicobar Islands (67.57%) and Sikkim (57.25%). All of them have a very sparse distribution of population. In these territories, the number of males of employable age has been inflated by

the migration of male population of this specific age group either due to construction work or the rehabilitation of refugees from Pakistan.

An extensive part of the country exhibits a moderately high proportion (54.01—56.00%) of employable male population. The States and Union Territories having the percentages of this range form two different zones: one in the central part embracing the States of Madhya Pradesh (54.42%), Andhra Pradesh (54.37%), Maharashtra (54.77%), Orissa (55.47%) and the Union Territory of Goa, Daman and Diu (54.01%) and the other comprising the State of Jammu and Kashmir (54.75%) and the Union Territory of Himachal Pradesh (54.68%). Nagaland (54.24%) stands out isolated at the eastern end.

The States and Union Territories with a medium range (52.01—54.00%) of employable male population are eight in number which can be divided into three distinct units—(i) the three contiguous States of Uttar Pradesh (53.04%), Rajasthan (52.32%), Gujarat (52.22%) and the Union Territory of Dadra and Nagar Haveli (52.60%) in the northern and western parts; (ii) the State of Mysore (52.84%) and the Union Territory of Laccadive, Minicoy and Amindivi Islands (52.42%) in the south-western part and (iii) the State of Assam (52.65%) and the Union Territory of Tripura (52.20%) in the north-eastern part of the country.

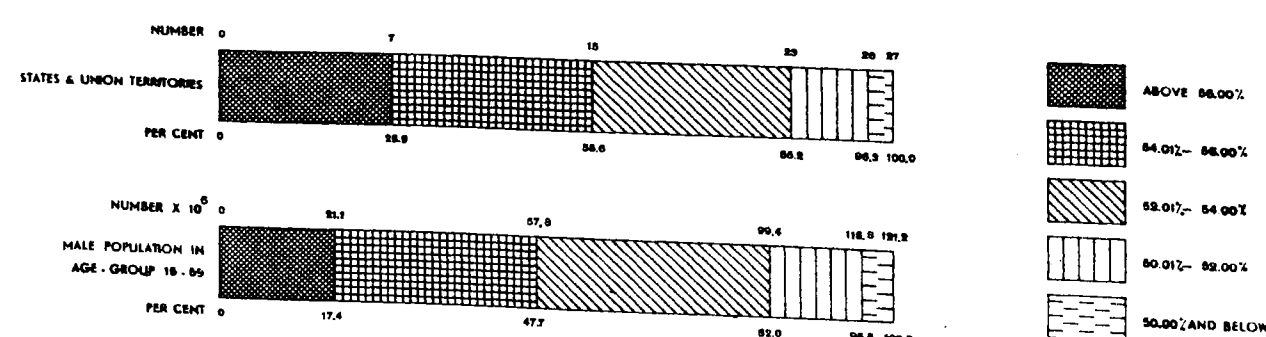
The proportion of male population of working age group 15—59 is low (50.01—52.00%) in the States of Kerala (50.71%) and Bihar (51.43%) and in the Union Territory of Manipur (50.62%). The dearth of employment in the densely populated States of Kerala and Bihar has, perhaps, encouraged out-migration of the male population of the working age group to the neighbouring States in search of employment.

The lowest proportion (50.00% and below) of male population in working age group is visible only in the State of Punjab (49.75%). The out-migration of the males in working age group (15—59) on a large scale to different parts of the country has, perhaps, lowered the proportion of employable population appreciably in this State.

Sl. No.	State/Union Territory	Total male population 1961	Male population in age group 15—59 1961	Percentage of male population in age group 15—59 to total male population
1	2	3	4	5
	INDIA*	226,146,101	121,158,484	53.58
	STATES			
1	Andhra Pradesh	18,161,671	9,874,405	54.37
2	Assam	6,328,129	3,331,894	52.65
3	Bihar	23,301,449	11,983,298	51.43
4	Gujarat	10,633,902	5,553,431	52.22
5	Jammu and Kashmir	1,896,633	1,038,361	54.75
6	Kerala	8,361,927	4,240,630	50.71
7	Madhya Pradesh	16,578,204	9,021,628	54.42
8	Madras	16,910,978	9,579,313	56.65
9	Maharashtra	20,428,882	11,188,375	54.77
10	Mysore	12,040,923	6,362,634	52.84
11	Orissa	8,770,586	4,865,305	55.47
12	Punjab	10,891,576	5,419,029	49.75
13	Rajasthan	10,564,082	5,526,777	52.32
14	Uttar Pradesh	38,634,201	20,489,677	53.04
15	West Bengal	18,599,144	10,440,434	56.13
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	39,304	26,556	67.57
2	Delhi	1,489,378	859,918	57.74
3	Himachal Pradesh	702,697	384,239	54.68
4	Laccadive, Minicoy and Amindivi Islands	11,935	6,256	52.42
5	Manipur	387,058	195,940	50.62
6	Tripura	591,237	308,635	52.20
7	Dadra and Nagar Haveli**	29,524	15,529	52.60
8	Goa, Daman and Diu †	302,534	163,397	54.01
9	Pondicherry	183,347	102,803	56.07
10	North-East Frontier Agency*	30,580	26,292	85.98
11	Nagaland	191,027	104,959	54.94
12	SIKKIM	85,193	48,769	57.25

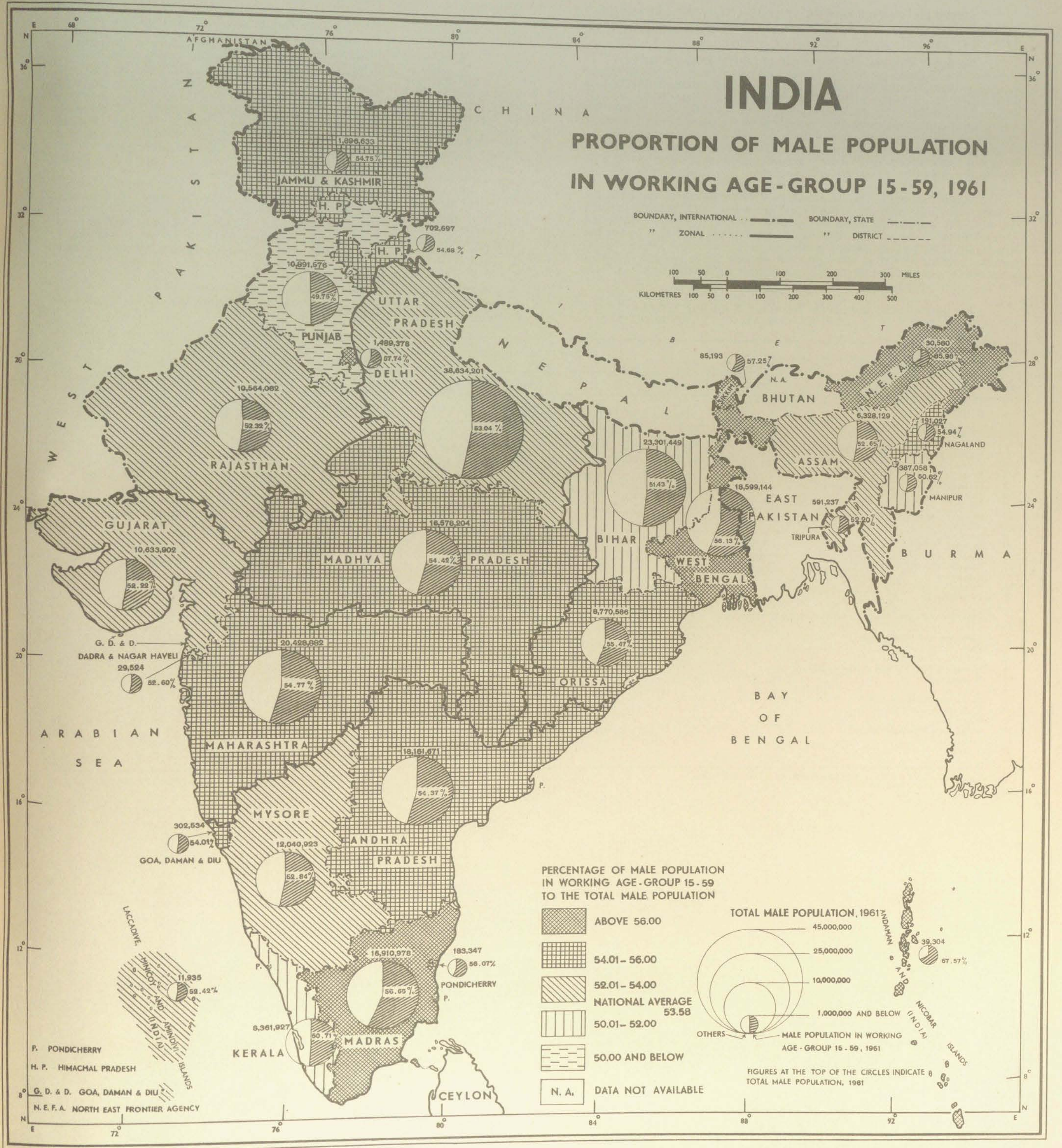
*Excludes 147,100 male population and its corresponding population in col. 4 of that portion of North-East Frontier Agency where All-India Census Schedule was not canvassed.
**Figures refer to the year 1962.
†Figures refer to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C (i)—Social and Cultural Tables.



INDIA

PROPORTION OF MALE POPULATION IN WORKING AGE - GROUP 15-59, 1961



PROPORTION OF FEMALE POPULATION IN WORKING AGE GROUP 15—59, 1961

Purpose : This map shows the proportion of females in working age group 15—59 to total female population in each State/Union Territory during 1961.

Method : Data for the percentage of females in age group 15—59 to total female population are worked out for each State/Union Territory. These percentage figures are grouped into five ranges—two above (above 56.00% and 54.01—56.00%); one nearer to (52.01—54.00%); and two below (50.01—52.00% and 50.00% and below) the National Average (53.01%). Five grades of hatching have been selected to represent these ranges and the States and Union Territories are hatched accordingly. In each of the States and Union Territories, circles proportionate to total female population are drawn and in each circle a sector is cut off and shaded proportionate to female population of age group 15—59. Figures above the circles indicate total population.

Salient Features : Out of a total of 212.79 millions of females in the country, those in working age group 15—59 are nearly 112.81 millions or 53.01 per cent. The map reveals the following salient features :—(i) in all States and Union Territories except two States (Assam and Punjab), more than half of the females are in working age group 15—59; (ii) the proportion of female population in age group 15—59 is the highest in extreme south and north-eastern corner of the country; and (iii) the States bordering Pakistan show a relatively low proportion of female population in this age group.

Among the States and Union Territories North-East Frontier Agency (60.49%), Madras (56.94%) and Pondicherry (56.85%) fall under the highest

percentage range—above 56.00 per cent. The States of Orissa (54.91%) and Andhra Pradesh (54.06%) and the Union Territories of Laccadive, Minicoy and Amindivi Islands (55.80%), Goa, Daman and Diu (55.30%) and Himachal Pradesh (54.42%) show the next high percentage range, i.e., 54.01—56.00% of female population in working age group 15—59.

A large part of the country embracing Madhya Pradesh (53.54%), Jammu and Kashmir (53.39%), Uttar Pradesh (53.37%), Maharashtra (53.27%), Bihar (52.68%), Kerala (52.30%) and Gujarat (52.07%), the Union Territories of Nagaland (53.74%), Delhi (52.32%) and Sikkim (53.58%) fall under the range of 52.01—54.00 per cent which is nearer to the National Average (53.01%). In absolute numbers, the size of female population is the biggest in Uttar Pradesh—35.11 millions, of which 53.37 per cent are in age group 15—59. The State of Bihar ranks next to Uttar Pradesh with 23.15 millions of female population of which 52.68 per cent are of employable age.

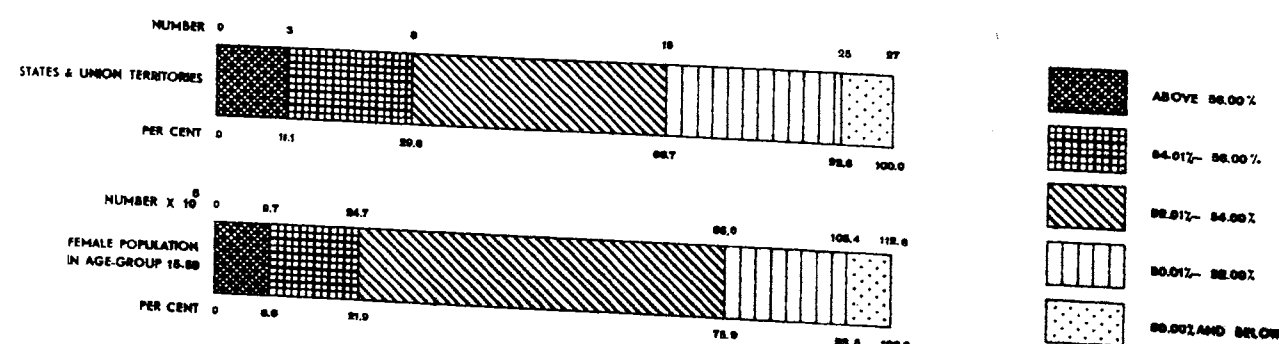
In the States of Rajasthan (51.97%), West Bengal (51.67%) and Mysore (51.30%), the proportion of female population of age group 15—59 is on the lower side—below the National Average. A similar low proportion is recorded in four Union Territories, namely, Manipur (51.53%), Dadra and Nagar Haveli (51.88%), Tripura (51.17%) and Andaman and Nicobar Islands (50.26%).

The State of Assam records the lowest proportion (48.73%) of female population in working age group among all the States and Union Territories followed by Punjab (49.95%).

Sl. No.	State/Union Territory	Total female population 1961	Female population in age group 15—59 1961	Percentage
1	2	3	4	5
	INDIA*	212,790,817	112,807,074	53.01
	STATES			
1	Andhra Pradesh	17,821,776	9,634,093	54.06
2	Assam	5,544,643	2,701,981	48.73
3	Bihar	23,154,161	12,198,081	52.68
4	Gujarat	9,999,448	5,207,204	52.07
5	Jammu and Kashmir	1,664,343	888,578	53.39
6	Kerala	8,541,788	4,467,281	52.30
7	Madhya Pradesh	16,794,204	8,456,223	53.54
8	Madras	16,775,975	9,551,586	56.94
9	Maharashtra	19,124,836	10,187,316	53.27
10	Mysore	11,545,849	5,923,077	51.30
11	Orissa	8,778,260	4,819,943	54.91
12	Punjab	9,415,236	4,702,828	49.95
13	Rajasthan	9,591,520	4,984,948	51.97
14	Uttar Pradesh	35,112,200	18,738,019	53.37
15	West Bengal	16,327,135	8,436,471	51.67
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	24,244	12,186	50.26
2	Delhi	1,169,234	611,730	52.32
3	Himachal Pradesh	648,447	352,907	54.42
4	Laccadive, Minicoy and Amindivi Islands	12,173	6,792	55.80
5	Manipur	392,979	202,499	51.53
6	Tripura	550,768	281,810	51.17
7	Dadra and Nagar Haveli**	28,439	14,753	51.88
8	Goa, Daman and Diu†	324,133	179,251	55.30
9	Pondicherry	185,732	105,596	56.85
10	North-East Frontier Agency*	8,125	4,915	60.49
11	Nagaland	178,173	95,751	53.74
12	SIKKIM	76,996	41,255	53.58

*Excludes 150,753 female population of that portion of N.E.F.A., where All-India Census Schedule was not canvassed.
**Figures refer to the year 1962.
†Figures refer to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.

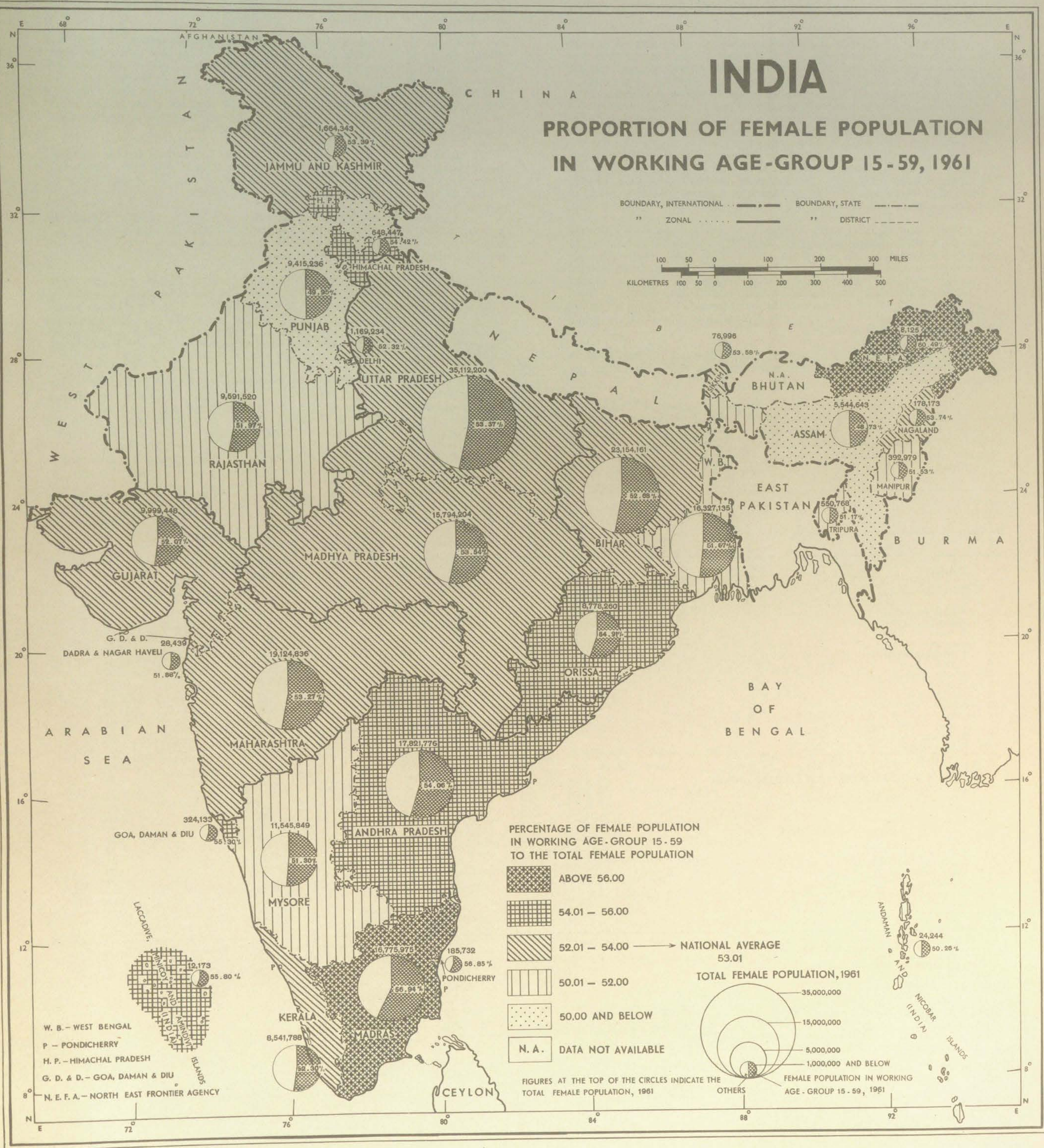


INDIA

PROPORTION OF FEMALE POPULATION IN WORKING AGE-GROUP 15-59, 1961

BOUNDARY, INTERNATIONAL ——— BOUNDARY, STATE ———
" ZONAL ——— " DISTRICT ———

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500



PROPORTION OF MALE POPULATION IN WORKING AGE GROUP 15—59 IN RURAL AREAS, 1961

Purpose : This map shows the regional variations in the proportion of male population in age group 15—59 to total male population in rural areas during 1961.

Method : The districtwise percentages of male population in the age group 15—59 to total male population in rural areas have been grouped into six ranges—three above, one nearer to and two below the National Average (52.48%) as shown in the index. These ranges are displayed in the map by different grades of hatching. In each of the States and Union Territories, circles proportionate to total rural male population are drawn and in each circle a sector is cut off and shaded proportionate to the total male population in the age group 15—59.

Salient Features : In 1961, about 183.4 millions of male population resided in rural areas of India of which 52.48% were in the age group 15—59. The districtwise percentages of male population, however, varied from 85.98% in the Union Territory of North-East Frontier Agency to 43.20% in Diu of Goa, Daman and Diu.

The share of rural male population of the age group 15—59 is the highest in North-East Frontier Agency (85.98%). Only nine districts in the country other than N.E.F.A. record the proportion of employable rural male population more than 58.50%. They are distributed in scattered and isolated pockets, for example, Tiruchirapalli district in Madras State, Koraput district in Orissa State, Dhanbad district in Bihar State and Purulia district in West Bengal State etc. In most of these districts the proportion has gone up mainly due to mining activities which attract male population of employable age group from other parts in good numbers.

The next high order of percentages (56.01—58.50%) is recorded in 29 districts which are visible mostly in Kashmir Himalayas, Rohilkhand Plain and Tamilnad Coast.

Over a large part of the country, the percentages of the employable males in rural areas vary from 53.51% to 56.00%. In all, 94 districts show this range of percentages. Most of these districts are found in three areas—the eastern part of Peninsular Plateaus embracing eastern Maharashtra Plateau, Mahanadi Basin, Baghelkhand Plateau and Chotanagpur Plateau, the north-western part of Madhya Pradesh and contiguous parts of Rajasthan, Uttar

Pradesh and the East Coast Region. Other than these regions, some districts in Karnataka Plateau, Northern Bengal Plain, Cachar Hills and Punjab Himalayas also record similar percentages.

There are 107 districts which show percentages between 51.01% and 53.50% nearer to the National Average (52.48%). The areas covered by these districts are Telangana Plateau, Karnataka Plateau, western Maharashtra Plateau, Narbada Valley, Gujarat Plain and Bastar Hills in Peninsular India and Bengal Basin, Assam Valley, Shillong Plateau, southern Rajasthan and western Uttar Pradesh in Extra Peninsular India. Besides, a few small pockets of this range of percentages are visible in Vindhyan Scarpland, Chotanagpur Plateau, Kashmir Himalayas and Lower Ganga Plain.

In all, 66 districts show the percentages of employable rural male population between 48.51% and 51.00%. They are found mostly in Kathiawar Peninsula, Malabar Coast, north-western Rajasthan and its adjacent area in Punjab, Manipur and Mizo hills and north Bihar Plain.

The districts showing the lowest proportion of employable rural male population (below 48.51%) are few in number. Only 26 districts fall under this range. Two-thirds of these districts are found in Punjab Plain, Kumaun Himalayas and eastern plain of Uttar Pradesh.

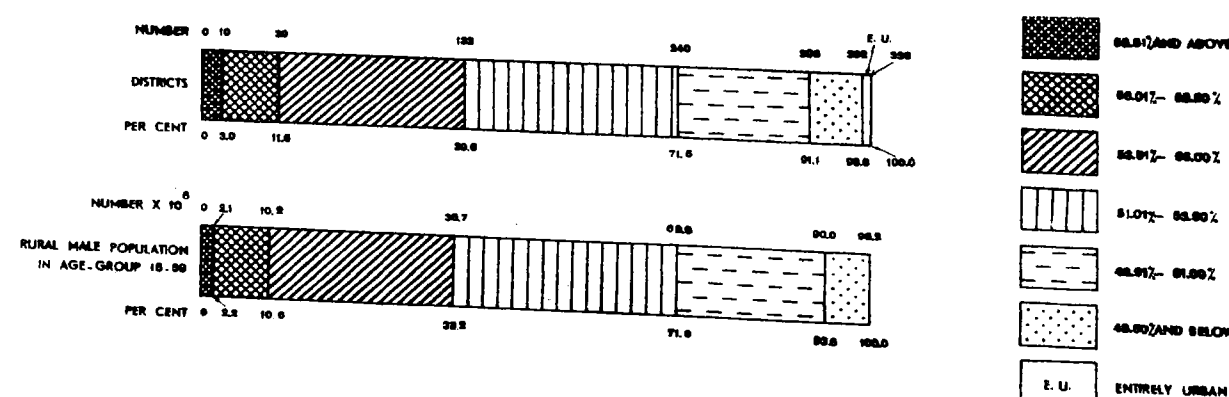
Out of the 15 States and 12 Union Territories including Sikkim, only 7 States and 8 Union Territories show the proportion of employable males in rural areas higher than the National Average (52.48%). In the Union Territories, in spite of low density of population, the proportion of employable male population is high in most of the cases. For example, North-East Frontier Agency shows 85.98%, Andaman and Nicobar Islands 66.87% and Pondicherry 55.88% as against 52.48% for India as a whole.

The concentration of rural male population is highest in Uttar Pradesh (33.4 millions) followed by Bihar (21.1 millions), Andhra Pradesh (14.9 millions) and Maharashtra (14.2 millions) etc. But the proportion of employable rural males is the highest in Madras (56.22%) followed by Orissa (54.90%), Jammu and Kashmir (54.54%), Andhra Pradesh (54.00%) and Madhya Pradesh (53.98%) etc. The States where proportion is low are Rajasthan (52.15%), Mysore (52.07%) and Maharashtra (51.80%). The proportion of the employable male population is the lowest in Punjab State (48.22%).

Sl. No.	State/Union Territory	Total rural male population, 1961	Rural male population in age group 15—59 1961	Percentage of rural male population in age group 15—59 to total rural male population, 1961
1	2	3	4	5
INDIA*		183,356,995	96,222,375	52.48
STATES				
1	Andhra Pradesh	14,945,712	8,071,172	54.00
2	Assam	5,783,675	2,987,813	51.66
3	Bihar	21,140,292	10,731,037	50.76
4	Gujarat	7,830,222	3,997,666	51.05
5	Jammu and Kashmir	1,574,946	858,936	54.54
6	Kerala	7,079,168	3,548,543	50.13
7	Madhya Pradesh	14,085,038	7,603,120	53.98
8	Madras	12,331,586	6,933,169	56.22
9	Maharashtra	14,230,934	7,371,734	51.80
10	Mysore	9,287,660	4,836,002	52.07
11	Orissa	8,156,598	4,478,264	54.90
12	Punjab	8,637,284	4,164,940	48.22
13	Rajasthan	8,820,880	4,599,667	52.15
14	Uttar Pradesh	33,401,345	17,563,903	52.58
15	West Bengal	13,579,044	7,155,265	52.69
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	30,358	20,301	66.87
2	Delhi	161,992	80,026	49.40
3	Himachal Pradesh	665,730	361,585	54.31
4	Laccadive, Minicoy and Amindivi Islands	11,935	6,256	52.42
5	Manipur	352,937	177,040	50.16
6	Tripura	536,580	277,979	51.81
7	Dadra and Nagar Haveli**	29,524	15,529	52.60
8	Goa, Daman and Diu†	252,440	134,836	53.41
9	Pondicherry	139,989	78,229	55.88
10	North-East Frontier Agency*	30,580	26,292	85.98
11	Nagaland	179,261	97,025	54.12
12	SIKKIM	81,285	46,146	56.77

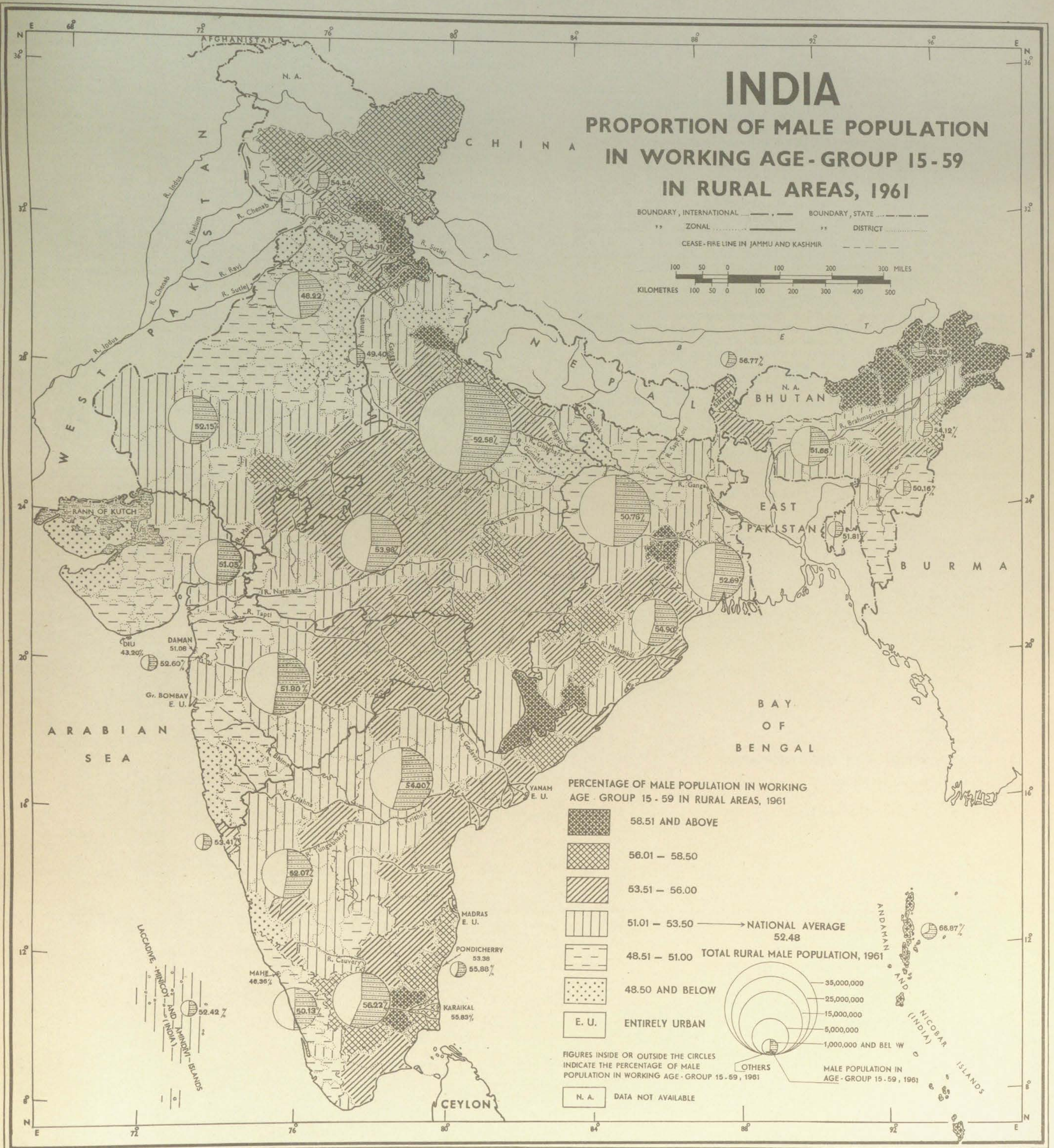
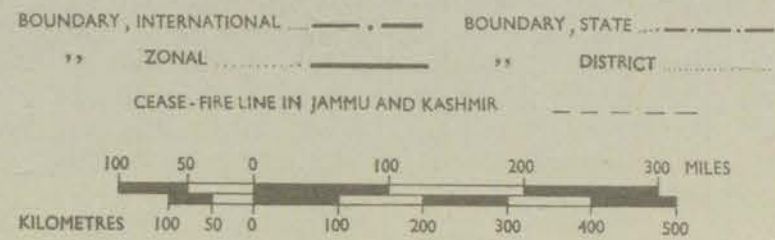
* Excludes 147,100 male population and its corresponding population in col. 4 of that portion of North-East Frontier Agency where All-India Census Schedule was not canvassed.
** Figures relate to the year 1962.
† Figures relate to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.



INDIA

PROPORTION OF MALE POPULATION IN WORKING AGE - GROUP 15-59 IN RURAL AREAS, 1961



**PROPORTION OF FEMALE POPULATION IN WORKING
AGE GROUP 15—59 IN RURAL AREAS, 1961**

Purpose : This map depicts the proportion of females in age group 15—59 to total female population in rural areas for each of the districts in 1961.

Method : The districtwise percentage figures are grouped into six ranges—two above, one nearer to and three below the National Average (52.84%). These ranges are displayed in the map by different grades of hatching as shown in the index. In each of the States and Union Territories circles proportionate to total rural female population are inserted and a sector is cut off and shaded proportionate to total female population in age group 15—59.

Salient Features : The total female population residing in the rural areas of India is 176.64 millions of which 93.34 millions or 52.84 per cent are in age group 15—59. The Himalayas in the north and the Eastern Coast are distinctive by a high proportion of employable female population (above 55.00%) in rural areas, while Bhagirathi delta, east Bihar plain, southern and western parts of Rajasthan, Karnataka Plateau and a major portion of Saurashtra exhibit a low proportion of females in age group 15—59 in rural areas. Uttar Kashi district in Uttar Pradesh shows the highest proportion (61.28%) and Nowgong district of Assam State, the lowest proportion (46.52%) of employable females in rural areas.

There are four distinct areas covering 50 districts where more than 55.00 per cent of the rural female population is of employable age. These regions are: (i) North-Western Himalayas embracing part of Kumaun, Punjab and Kashmir Himalayas; (ii) North-Eastern Himalayas; (iii) Tamilnad Region and (iv) the Coastal Region of Orissa and Andhra Pradesh in part. Besides these major regions, high percentages of employable females are recorded in a few districts of central Plateaus, Orissa Plateau and Avadh Plain.

67 districts fall under the second range (53.51—55.00%). About two-thirds of these districts appear in the States of Uttar Pradesh and Madhya Pradesh. The largest area showing this range is spread out in Malwa Plateau, Vindhyan highlands, Bundelkhand Uplands and Avadh Plain. The other areas which show similar percentages are Mahanadi Basin, Konkan Coast and

Coastal Region of Andhra Pradesh. A few scattered patches of the same range are in the States of Kerala, Orissa, Bihar, Gujarat and Eastern Maharashtra.

Over an extensive area of the country, the percentages are between 52.01 and 53.50 per cent which are nearer to the National Average. There are three distinct areas recording this range—(i) the Peninsular Region including Telangana Plateau, Eastern Karnataka Plateau, a large area of Maharashtra Plateau and Vindhyan and Satpura ranges in Southern Madhya Pradesh; (ii) Middle Ganga Plain embracing eastern Uttar Pradesh and Western Bihar and (iii) Upper Ganga Plain embracing Ganga-Yamuna *doab* and Rohilkhand Plain. The percentages of the same range also occur in a few districts in eastern Rajasthan Uplands, Shillong Plateau and Gujarat Plain.

The districts having the percentages of fourth rank 50.51—52.00% are distributed in patches throughout the country. In all 58 districts come under this range of which nearly half are confined to western half of peninsular India. The other sizable patches are visible in Punjab Himalayas and Eastern hill Region comprising Tripura hills, Manipur hills, Mizo hills and Mikir hills. A few pockets in Northern Plain also record the percentages of this order.

The districts with further lower percentages (49.01—50.50%) are 41 in number. Most of these districts are visible in the western part of the country where they occur in small patches lying in Kathiawar Peninsula, western Rajasthan, Punjab Plain, Karnataka Plateau and Malwa Plateau. On the eastern side only two patches showing similar percentages are visible in eastern part of Northern Bihar Plain and Hooghly Basin.

The districts having the percentages of lowest range (49.00% and below) are only 15 in number and are generally found in the northern part of the country—Assam Valley, Punjab Plain, north-western Saurashtra and central part of West Bengal.

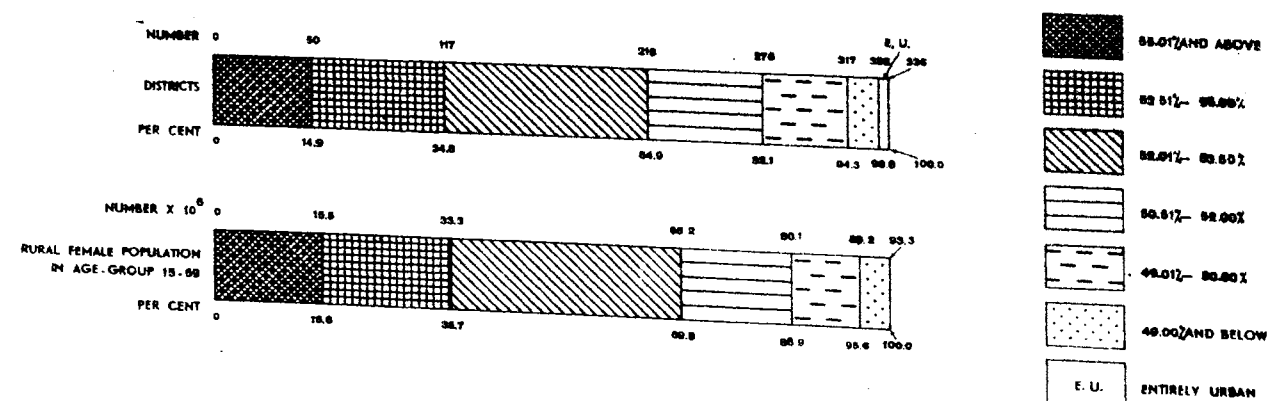
Sl. No.	State/Union Territory	Total rural female population, 1961	Rural female population in age group 15—59 1961	Percentage of rural female population in age group 15—59 to total rural female population, 1961
1	2	3	4	5
	INDIA*	176,643,320	93,344,652	52.84
	STATES			
1	Andhra Pradesh	14,763,227	7,960,907	53.92
2	Assam	5,176,069	2,518,879	48.66
3	Bihar	21,401,398	11,276,903	52.69
4	Gujarat	7,486,504	3,858,563	51.54
5	Jammu and Kashmir	1,392,715	746,557	53.60
6	Kerala	7,270,406	3,780,746	52.00
7	Madhya Pradesh	13,660,136	7,314,830	53.55
8	Madras	12,364,839	7,045,364	56.98
9	Maharashtra	14,160,223	7,453,844	52.64
10	Mysore	9,032,619	4,606,994	51.00
11	Orissa	8,282,598	4,542,066	54.84
12	Punjab	7,580,933	3,750,370	49.47
13	Rajasthan	8,053,244	4,184,191	51.96
14	Uttar Pradesh	30,865,161	16,524,870	53.54
15	West Bengal	12,806,393	6,534,837	51.03
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	19,115	9,669	50.58
2	Delhi	137,212	67,818	49.43
3	Himachal Pradesh	621,486	338,277	54.43
4	Laccadive, Minicoy and Amindivi Islands	12,173	6,792	55.80
5	Manipur	359,383	184,303	51.28
6	Tripura	502,428	256,771	51.11
7	Dadra and Nagar Haveli**	28,439	14,753	51.88
8	Goa, Daman and Diu†	273,563	150,480	55.01
9	Pondicherry	140,093	79,408	56.68
10	North-East Frontier Agency*	8,125	4,915	60.49
11	Nagaland	170,782	91,948	53.84
12	Sikkim	74,056	39,607	53.48

* Excludes 150,753 female population and its corresponding population in col. 4 of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

** Figures refer to the year 1962.

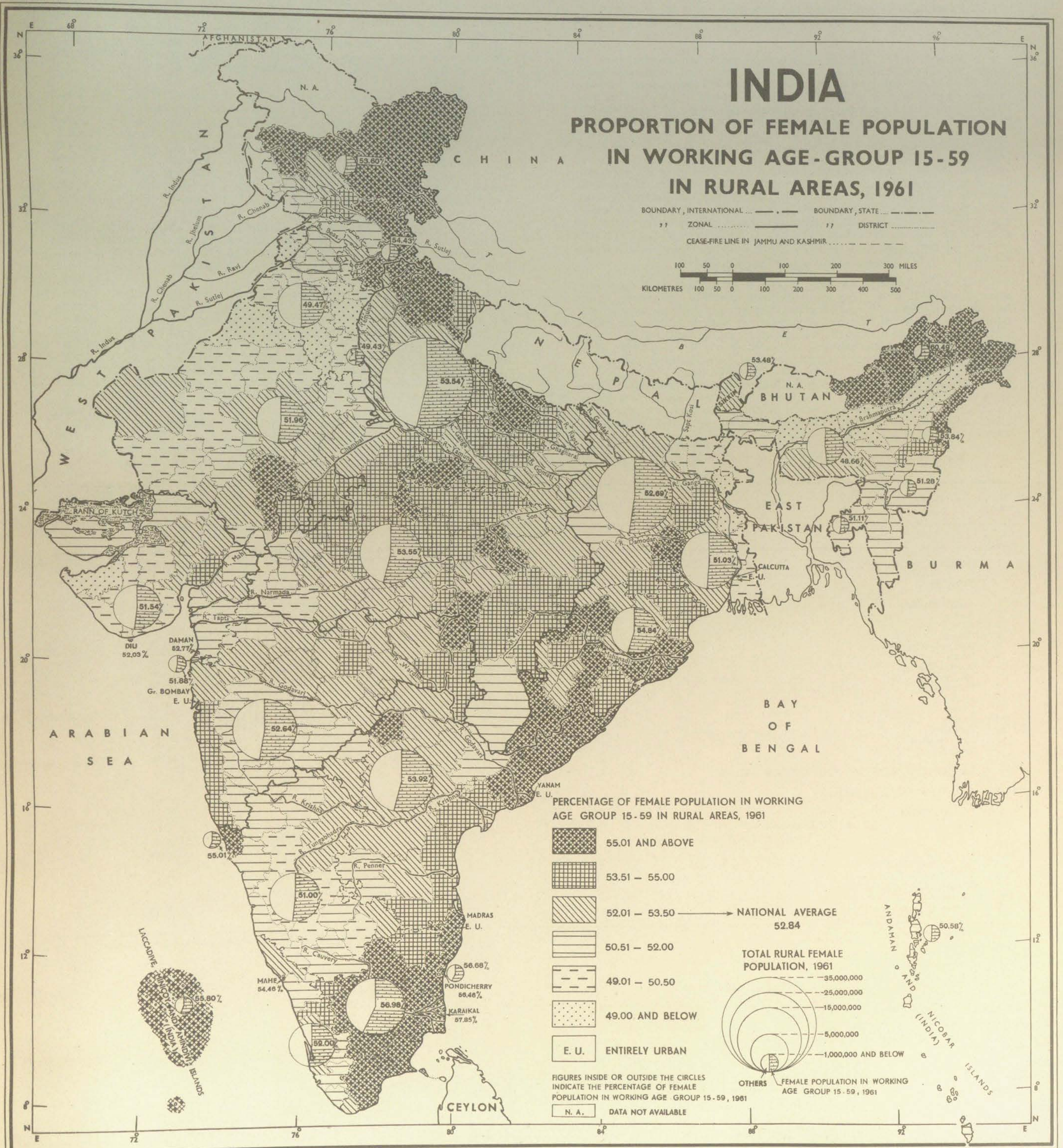
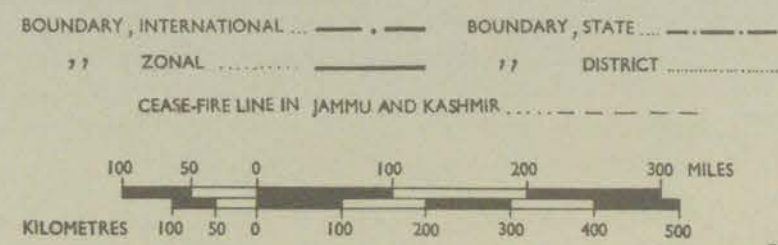
† Figures refer to the year 1960.

Source : Census of India, 1961. Vol. I, India, Part II-C(i)—Social and Cultural Tables.



INDIA

PROPORTION OF FEMALE POPULATION IN WORKING AGE-GROUP 15-59 IN RURAL AREAS, 1961



PROPORTION OF MALE POPULATION IN WORKING AGE GROUP 15—59 IN URBAN AREAS, 1961

Purpose : This map depicts the proportion of male population in age group 15—59 to total male population in urban areas for each district in 1961.

Method : The districtwise percentage figures are grouped into six ranges—two above, one nearer to and three below the National Average (58.28%). These ranges are displayed in the map by different grades of hatching as shown in the index. In each of the States and Union Territories, circles proportionate to total urban male population are inserted and in each circle a sector is cut off and shaded proportionate to male population in the age group 15—59.

Salient Features : The total male population residing in the urban areas of India is 42.79 millions, out of which 24.94 millions or 58.28% are in the age group 15—59. The percentages of urban male population in the age group 15—59 as calculated for various districts range between 74.32% (Sundergarh district in Orissa) and 44.84% (Diu in Goa, Daman and Diu Union Territory). The distribution pattern of the percentages reveals that a high proportion of employable male population in urban areas is visible mainly in the districts of eastern States (Assam, West Bengal and Orissa), while a low proportion is seen in the north-west Rajasthan, Gujarat, Western Uttar Pradesh and Southern Punjab.

Out of 336 districts (including Sikkim) in the country, 45 districts show more than 60.50% of the urban male population in working age group. In the metropolitan districts of Greater Bombay, Calcutta and Madras, the high proportion of male population in this age group is attributable to the male labour force attracted by the industries and services. In the northern districts of Orissa, the proportion of employable male population is high because of mining activities and in Assam State it is high because of the plantation industry.

In some of the underurbanised districts in Kumaun and Punjab Himalayas, United Khasi and Jaintia Hills, United Mikir and North Cachar Hills etc., the proportion of employable males becomes high because of their fewer urban centres which attract male population from rural areas by trade and commerce, transport and other activities.

The next high proportion (58.51—60.50%) of employable male popu-

lation in urban areas is visible only in 32 districts. They lie mostly in the underdeveloped parts of the country—eastern parts of Madhya Pradesh and north-western Himalayas. In all these areas, urban centres are very few in number. It is obvious that male population mostly of the age group 15—59 shifts from rural surroundings to these urban centres in search of work thereby increasing the proportion of male population of this age group.

The percentages nearer to the National Average (58.28%) fall under the third range (56.51—58.50%) and are recorded in 58 districts scattered all over the country. In Peninsular India these districts are seen in four distinct areas—(i) eastern Maharashtra Plateau; (ii) Coastal Region of Andhra Pradesh; (iii) Tamilnad and its contiguous areas in the north and (iv) Gujarat Plain and its contiguous districts of Rajasthan State. In the north, the mountainous areas of Punjab and Kashmir Himalayas and Ganga Plain also show their percentages nearer to the National Average. In the east, Mizo Hills, Cachar and a few districts in Chotanagpur Plateau record the percentages of this order.

The percentages falling in the fourth range (54.51—56.50%) are recorded in a large number of districts distributed all over the country. The areas where their occurrences are more frequent are visible in the Northern Plain and in southern and western parts of Peninsular India.

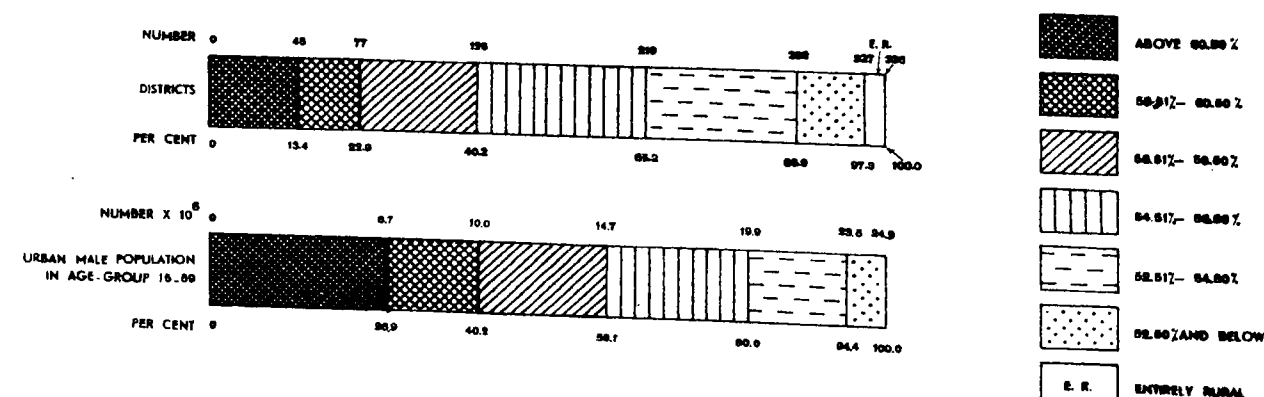
In all, 73 districts have a relatively low proportion of male population (52.51—54.50%) of employable age in their total urban male population. They are seen in the western part of the country forming three distinct regions—(i) south central region which embraces southern Maharashtra Plateau, Karnataka Plateau and Telangana Plateau; (ii) western region embracing western Madhya Pradesh, south-eastern Rajasthan, southern Punjab, western Uttar Pradesh and Gujarat State and (iii) Kerala Coast. Besides these, a few districts of this range occur in the eastern part of Northern Plain and in Kashmir Himalayas.

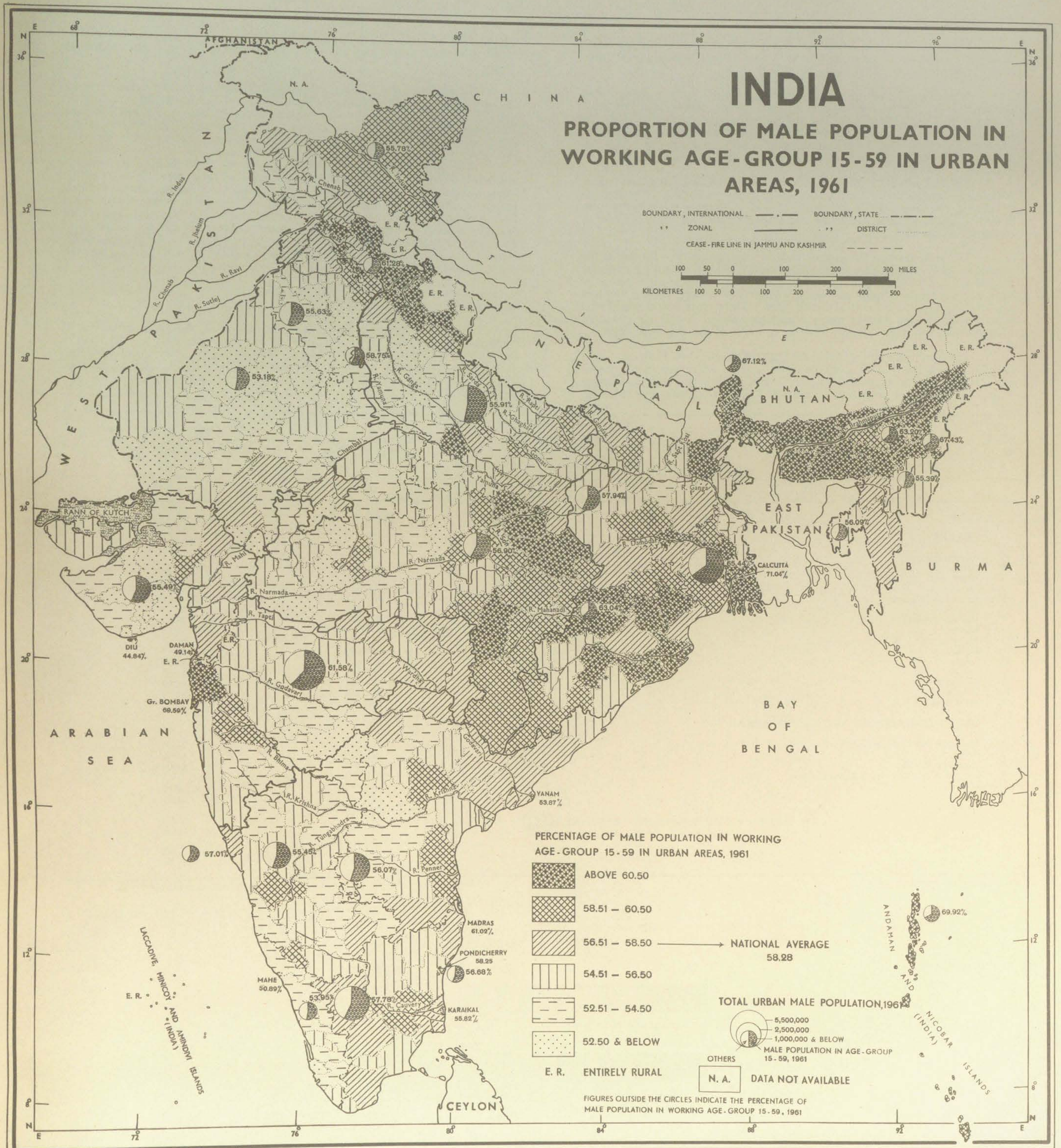
The percentages of lowest range (52.50% and below) are recorded in 35 districts which are distributed in the western part of the country. The western part of Uttar Pradesh, southern Punjab, Kathiawar Peninsula and arid part of Rajasthan are the main areas showing lowest percentages.

Sl. No.	State/Union Territory	Total urban male population, 1961	Urban male population in age group 15—59 1961	Percentage of urban male population in age group 15—59 to total urban male population, 1961
1	2	3	4	5
	INDIA	42,789,106	24,936,109	58.28
	STATES			
1	Andhra Pradesh	3,215,959	1,803,233	56.07
2	Assam	544,454	344,081	63.20
3	Bihar	2,161,157	1,252,261	57.94
4	Gujarat	2,803,680	1,555,865	55.49
5	Jammu and Kashmir	321,687	179,425	55.78
6	Kerala	1,282,759	692,087	53.95
7	Madhya Pradesh	2,493,166	1,418,508	56.90
8	Madras	4,579,392	2,646,144	57.78
9	Maharashtra	6,197,948	3,816,641	61.58
10	Mysore	2,753,263	1,526,632	55.45
11	Orissa	613,988	387,041	63.04
12	Punjab	2,254,292	1,254,089	55.63
13	Rajasthan	1,743,202	927,110	53.18
14	Uttar Pradesh	5,232,856	2,925,774	55.91
15	West Bengal	5,020,100	3,285,169	65.44
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	8,946	6,255	69.92
2	Delhi	1,327,386	779,892	58.75
3	Himachal Pradesh	36,967	22,654	61.28
4	Laccadive, Minicoy and Amindivi Islands		Entirely Rural	
5	Manipur	34,121	18,900	55.39
6	Tripura	54,657	30,656	56.09
7	Dadra and Nagar Haveli		Entirely Rural	
8	Goa, Daman and Diu*	50,094	28,561	57.01
9	Pondicherry	43,358	24,574	56.68
10	North-East Frontier Agency		Entirely Rural	
11	Nagaland	11,766	7,934	67.43
12	Sikkim	3,908	2,623	67.12

* Figures relate to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





MAP 35

PROPORTION OF FEMALE POPULATION IN WORKING AGE GROUP 15—59 IN URBAN AREAS, 1961

Purpose : This map brings out the regional variation in the proportion of female population in age group 15—59 to total female population in urban areas in 1961.

Method : The districtwise percentage figures are grouped into six ranges—two above, one nearer to and three below the National Average (53.84%). These ranges are shown in the map by graded shades as given in the index. Circles proportionate to total urban female population are drawn in each State and Union Territory and in each circle a sector is cut off and shaded proportionate to female population in the age group 15—59.

Salient Features : In India, according to 1961 Census, the total female population living in urban areas is about 36.15 millions of which 19.46 millions or 53.84% are found in the age group 15—59. The proportion varies from 62.37% in Ladakh district of Jammu and Kashmir State to 47.34% in Darrang district of Assam State.

The proportion of female population of age group 15—59 under the highest range (> 55.00%) is in 53 districts, most of which are in the East-Coast Region and its contiguous plateau area where sex ratio in urban population is high. There is another region embracing 9 districts of eastern Madhya Pradesh and its six contiguous districts of Orissa State. There are a few scattered districts showing a high proportion of female population in this age group in Maharashtra, Rajasthan, Madhya Pradesh and Jammu and Kashmir States.

The next category (54.01—55.00%) of high proportion of urban females in age group 15—59 is visible in 42 districts which are mostly contiguous with the areas mentioned above. These districts are more in Gujarat Plain, south-eastern Rajasthan Uplands, eastern Maharashtra Plateau,

Bhagirathi and Mahanadi deltas, Konkan and Malabar Coast. Some districts in north-eastern and north-western mountainous areas also fall under this range.

In all, 56 districts have percentages nearer to the National Average (53.84%), most of which are in Northern Plain and Central India. A few districts under this range are in the southern part of West Bengal and its contiguous areas of Chotanagpur Plateau, Maharashtra Plateau, Punjab Himalayas and Gujarat Plains.

The proportion of females in age group 15—59 is below the National Average in 176 districts of which 86 districts fall under the range 52.01—53.00%. These districts form irregular patches spreading over Maharashtra Plateau, Karnataka Plateau and Telangana Plateau in Peninsular India, North Bihar Plain and eastern Uttar Pradesh in the northern part of India. In some of the districts in eastern Madhya Pradesh, western Uttar Pradesh, south-eastern Rajasthan, Kathiawar Peninsula, Malabar Coast, Hooghly Basin and north-western mountainous region, the percentage of females of employable age group also falls under this range.

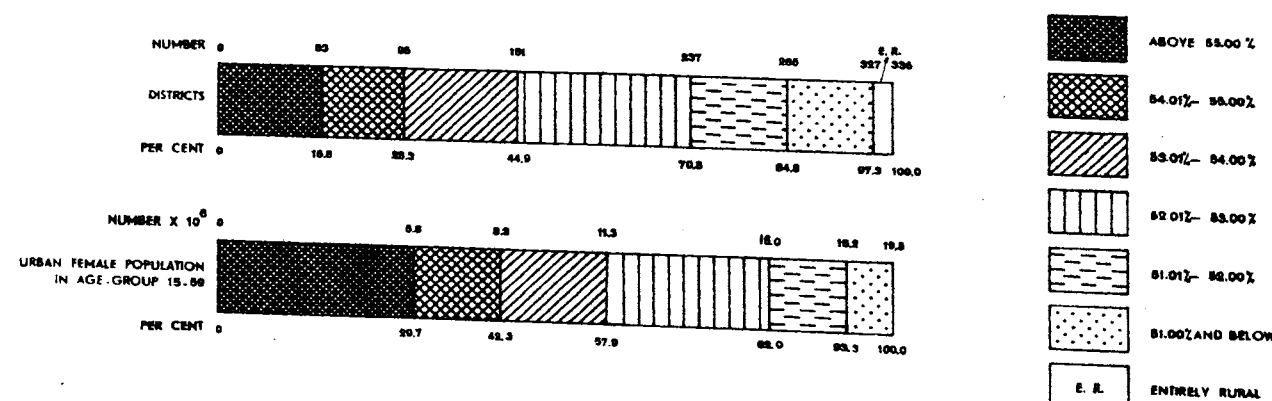
In all, 48 districts fall in the next lower range of 51.01—52.00%. They are more conspicuous in Malwa Plateau and Northern Plain.

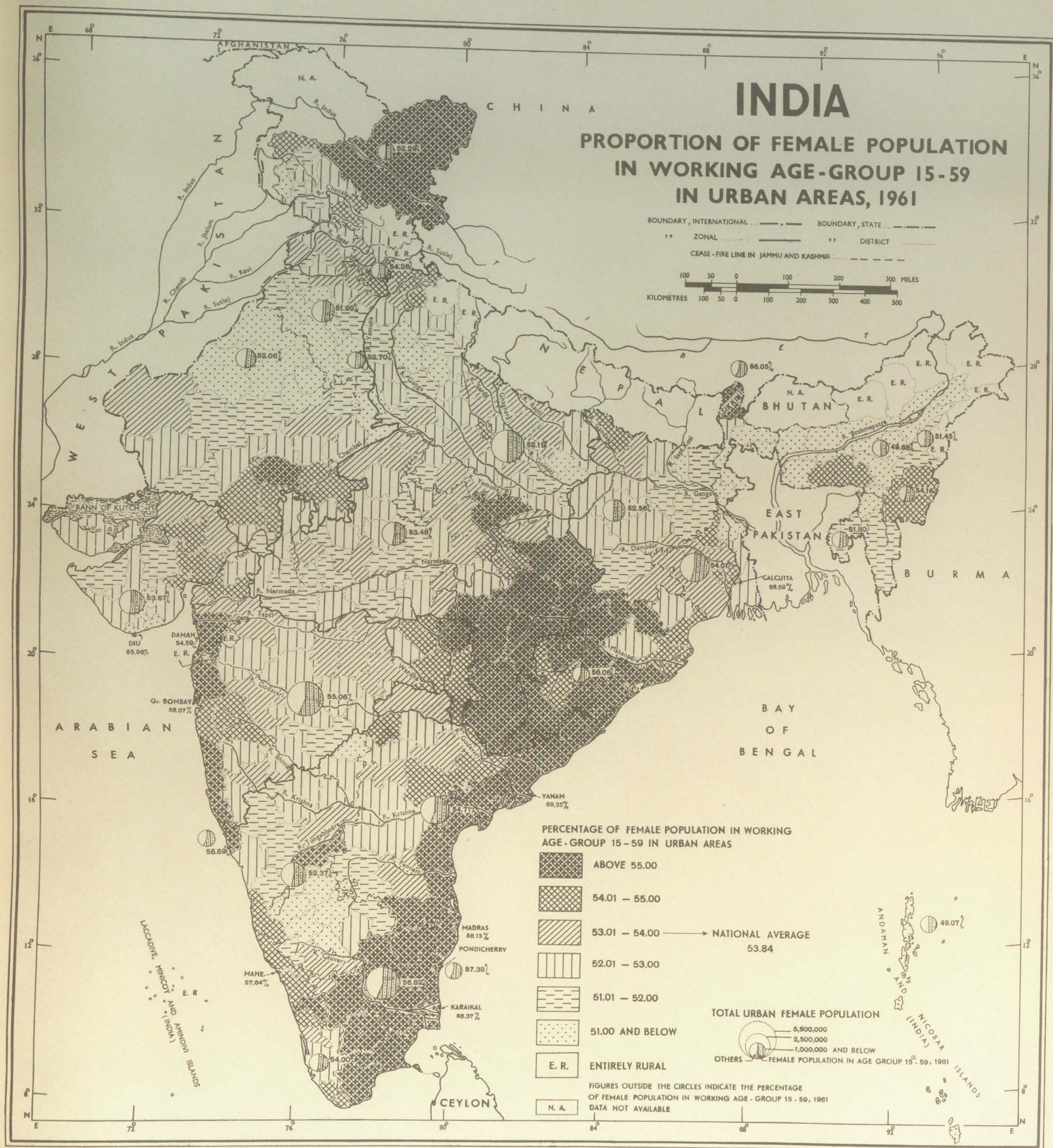
The lowest percentages (51.00% & below) of female population of employable age group are recorded in 42 districts concentrated in the eastern and western extremities of the country. The States of Assam and northern part of West Bengal in the east, southern Punjab, northern Rajasthan and western Uttar Pradesh in the west characterise the lowest percentages of female population of age group 15—59 in urban areas.

Sl. No.	State/Union Territory	Total urban female population, 1961	Urban female population in age group 15—59 1961	Percentage of urban female population in age group 15—59 to urban female population, 1961
1	2	3	4	5
	INDIA	36,147,497	19,462,422	53.84
	STATES			
1	Andhra Pradesh	3,058,549	1,673,186	54.71
2	Assam	368,574	183,102	49.68
3	Bihar	1,752,763	921,178	52.56
4	Gujarat	2,512,944	1,348,651	53.67
5	Jammu and Kashmir	271,628	142,021	52.29
6	Kerala	1,271,382	686,535	54.00
7	Madhya Pradesh	2,134,068	1,141,393	53.48
8	Madras	4,411,136	2,506,222	56.82
9	Maharashtra	4,964,613	2,733,472	55.06
10	Mysore	2,513,230	1,316,083	52.37
11	Orissa	495,662	277,877	56.06
12	Punjab	1,834,303	952,458	51.92
13	Rajasthan	1,538,276	800,757	52.06
14	Uttar Pradesh	4,247,039	2,213,149	52.11
15	West Bengal	3,520,742	1,901,634	54.01
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	5,129	2,517	49.07
2	Delhi	1,032,022	543,912	52.70
3	Himachal Pradesh	26,961	14,630	54.26
4	Laccadive, Minicoy and Amindivi Islands			
5	Manipur		Entirely Rural	
6	Tripura	33,596	18,196	54.16
7	Dadra and Nagar Haveli	48,340	25,039	51.80
8	Goa, Daman and Diu*		Entirely Rural	
9	Pondicherry	50,570	28,771	56.89
10	North-East Frontier Agency	45,639	26,188	57.38
11	Nagaland		Entirely Rural	
12	Sikkim	7,391	3,803	51.45
		2,940	1,648	56.05

*Figures refer to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-C (i)—Social and Cultural Tables.





Urbanism

PERCENTAGE OF URBAN POPULATION TO THE TOTAL POPULATION, 1961

Purpose : This map depicts the percentage distribution of urban population to the total population for each district of the States/Union Territories of the country for 1961.

Method : Percentage figures of urban population to the total population for each district are calculated and grouped into seven ranges—four above, one nearer to and two below the National Average (17·97%). The districts are then hatched from high to low as shown in the index.

Salient Features : According to 1961 Census 78·94 million persons or 17·97% of country's population live in urban areas. The percentage of urban population is highest in the Union Territory of Delhi (88·75%) and lowest in Nagaland (5·19%).

A cursory look at the map reveals that among the 336 districts (including Sikkim) 3 coincide with the metropolitan cities—Greater Bombay, Calcutta and Madras which are entirely urban.

In the next range (50·00—99·99%) falls the districts of Hyderabad in Andhra Pradesh, Nagpur in Maharashtra, Indore in Madhya Pradesh, Ahmedabad in Gujarat, Bangalore in Mysore and the Union Territory of Delhi.

Eighteen districts scattered mainly in the north-western part of the country show a moderately high percentage (35·00—49·99%) of urban population. They are the districts of Srinagar in Jammu and Kashmir; Simla in Punjab; Kanpur, Lucknow, Agra and Dehra Dun in Uttar Pradesh; Sehore, Jabalpur and Gwalior in Madhya Pradesh and Howrah in West Bengal. The districts of Jamnagar and Rajkot in the Kathiawar Peninsula, Poona in the hinterland of Bombay, Bikaner and Ajmer in Rajasthan and Nilgiri in Tamilnad area also exhibit a moderately high percentage of urban population.

Another 28 districts exhibit a high percentage of urban population (25·00—34·99%) and they are spread out mostly in the western part of Peninsular India, in the Northern Punjab Plain, the lower Hooghly Basin, Malwa Plateau and the Rajasthan Plain.

The percentage of urban population to total population nearer to National Average in the next range (15·00—24·99%) is recorded in 82 districts, most of which lie in the southern part of the country, in the State of Mysore (9), Andhra Pradesh (8), Madras (7) and Kerala (4). In the northern part, the significant areas falling in this range are the Rohilkhand Plain, the Ganga-Yamuna *doab*, south-eastern Punjab Plain, Western Rajasthan Plain, Gujarat Plain, Hooghly Basin and Shillong Plateau.

The districts showing a very low percentage of urban population (5·00—14·99%) constitute about 43% of the total number of districts in the country. They are spread out mostly in the Peninsular Plateau, Telangana Plateau and Malabar Coast. In the north, they are in the western Himalayas, eastern part of Uttar Pradesh and North Bihar, northern and western parts of West Bengal, Assam Valley, Manipur, Tripura and Nagaland.

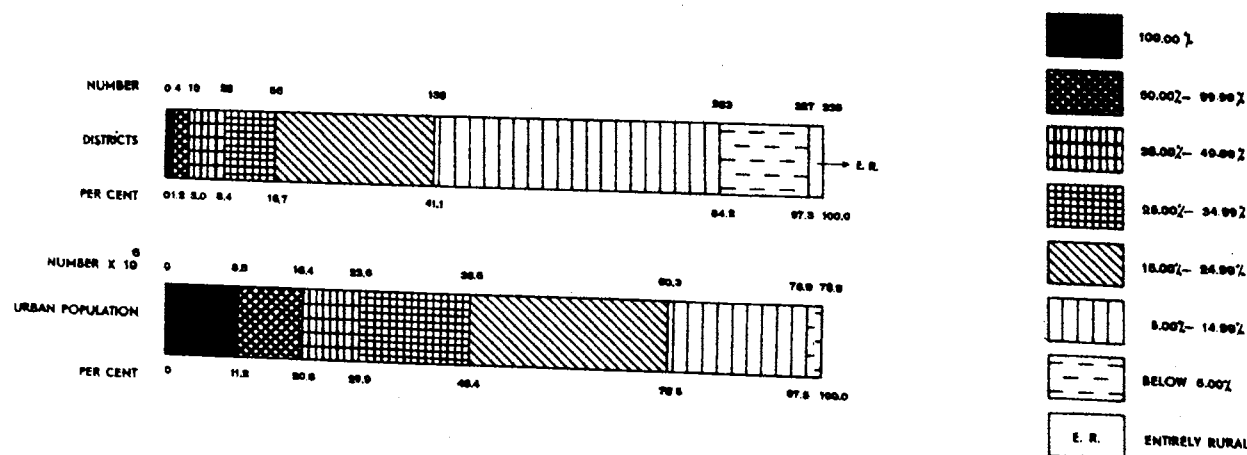
The lowest percentage of urban population (below 5·00%) is noticed in 44 districts spread out in the north-western Himalayas, Avadh Plain, middle Ganga Plain, North Orissa Hills and Plateau and Sikkim.

The map also shows that the districts of Pithoragarh and Chamoli in Uttar Pradesh, Kinnaur in Himachal Pradesh, Lahaul and Spiti in Punjab, Tuen-sang in Nagaland, Dangs in Gujarat and the Union Territories of North-East Frontier Agency, Dadra and Nagar Haveli and Laccadive, Minicoy and Amin-divi Islands are entirely rural.

Sl. No.	State/Union Territory	Total population 1961	Urban population 1961	Percentage of urban population to total population
1	2	3	4	5
INDIA		439,234,771	78,936,603	17·97
STATES				
1	Andhra Pradesh	35,983,447	6,274,508	17·44
2	Assam	11,872,772	913,028	7·69
3	Bihar	46,455,610	3,913,920	8·43
4	Gujarat	20,633,350	5,316,624	25·77
5	Jammu and Kashmir	3,560,976	593,315	16·66
6	Kerala	16,903,715	2,554,141	15·11
7	Madhya Pradesh	32,372,408	4,627,234	14·29
8	Madras	33,686,953	8,990,528	26·69
9	Maharashtra	39,553,718	11,162,561	28·22
10	Mysore	23,586,772	5,266,493	22·33
11	Orissa	17,548,846	1,109,650	6·32
12	Punjab	20,306,812	4,088,595	20·13
13	Rajasthan	20,155,602	3,281,478	16·28
14	Uttar Pradesh	73,746,401	9,479,895	12·85
15	West Bengal	34,926,279	8,540,842	24·45
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	63,548	14,075	22·15
2	Delhi	2,658,612	2,359,408	88·75
3	Himachal Pradesh	1,351,144	63,928	4·73
4	Laccadive, Minicoy and Amindivi Islands	24,108	Entirely Rural	
5	Manipur	780,037	67,717	8·68
6	Tripura	1,142,005	102,997	9·02
7	Dadra and Nagar Haveli*	57,963	Entirely Rural	
8	Goa, Daman and Diu**	626,667	100,664	16·06
9	Pondicherry	369,079	88,997	24·11
10	North-East Frontier Agency	336,558	Entirely Rural	
11	Nagaland	369,200	19,157	5·19
12	Sikkim	162,180	6,848	4·22

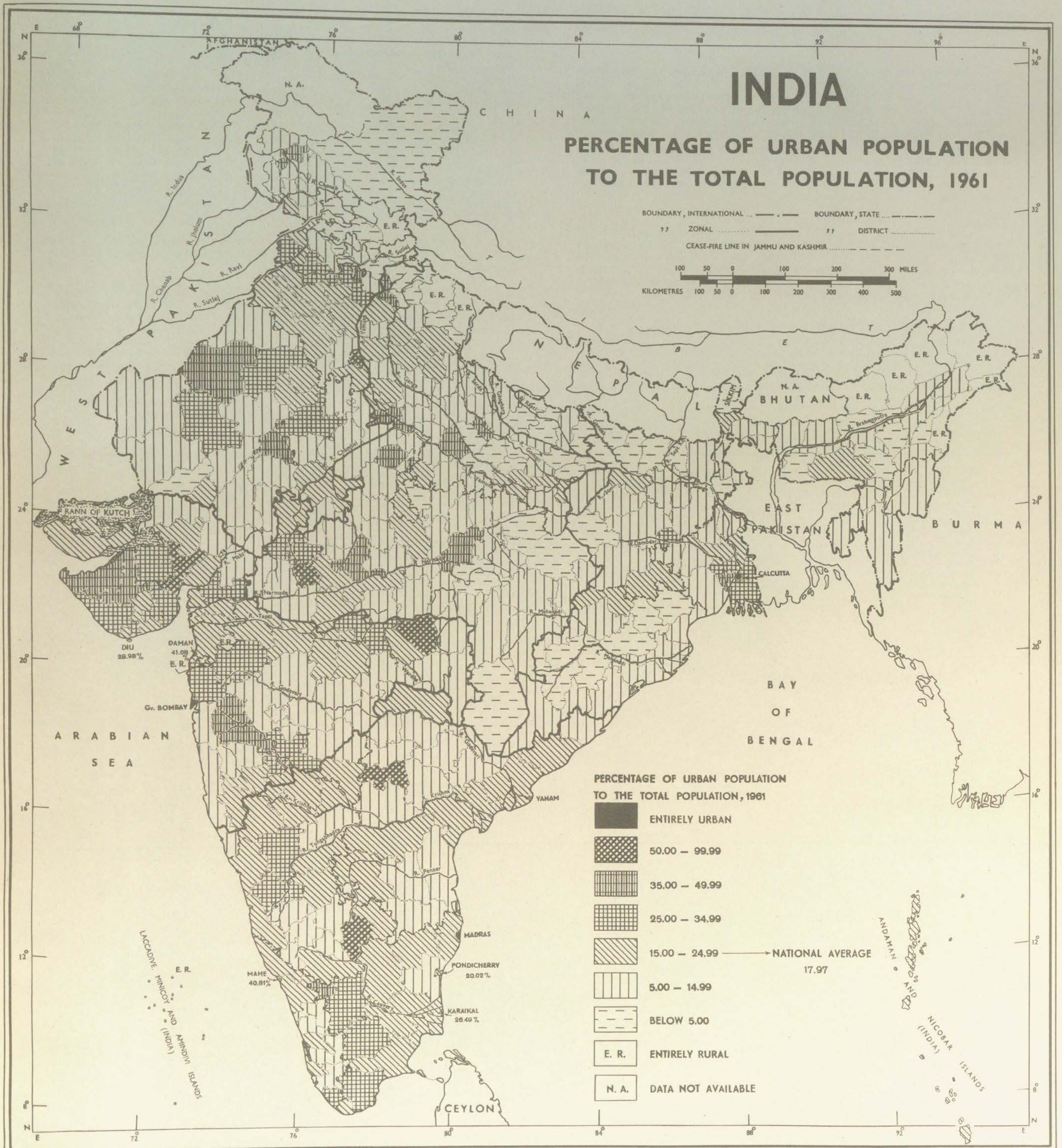
*Figures relate to the year 1962.
**Figures relate to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



INDIA

PERCENTAGE OF URBAN POPULATION TO THE TOTAL POPULATION, 1961



RURAL AND URBAN POPULATION, 1961

Purpose : The map shows the percentage distribution of population living in rural and urban areas to total of each State and Union Territory in 1961.

Method : Circles proportionate to the total population have been inserted in the centre of each State and Union Territory. In each circle, a sector is cut off to show the percentage share of urban population with its further break-up of population living in large towns (with population > 20,000) and small towns (with population < 20,000). The remaining portion of the circle represents the rural population. The percentage figures written in the sectors indicate the proportion of rural and urban population. Absolute figures above each circle indicate the total population of the State/Union Territory. In the background of the circles, density of population per sq. km. in 1961, has been shown by five grades of hatching—three above; one nearer to and one below the National Average—138 persons per sq. km.

Salient Features : This map shows that an overwhelming proportion of India's population lives in rural areas. In 1961, 82.03% of India's population lived in rural areas, while 17.97% in urban areas. The proportion of rural population is more than 70 per cent in all the States and Union Territories except Delhi (11.25 per cent). The density of population in the country indicates more of rural crowding than of urban congestions.

The proportion of rural population is by far the highest in the State of Orissa (93.68%), followed by Assam (92.31%), Bihar (91.57%), Uttar Pradesh (87.15%), Madhya Pradesh (85.71%), Kerala (84.89%) and Rajasthan (83.72%). Most of these States are still underdeveloped. Except Andhra Pradesh and

Kerala all other States of Peninsular India, show the proportion of rural population lower than the National Average (82.03%). It may be pointed out that only nine districts and Union Territories are entirely rural. They are Chamoli and Pithoragarh districts of Uttar Pradesh; Kinnaur district of Himachal Pradesh; Lahaul and Spiti district of Punjab; Dangs district of Gujarat; Tuensang district of Nagaland; N.E.F.A.; Dadra and Nagar Haveli and Laccadive, Minicoy and Amindivi Islands. On the other hand, only four districts are entirely urban viz., Calcutta, Madras, Greater Bombay and Yanam.

The percentage of urban population is highest in the Union Territory of Delhi (88.75%) followed by the States of Maharashtra (28.22%), Madras (26.69%), Gujarat (25.77%), West Bengal (24.45%), the Union Territory of Pondicherry (24.11%), the State of Mysore (22.33%), Union Territory of Andaman and Nicobar Islands (22.15%) and the State of Punjab (20.13%). The lowest proportion of urban population is noticed in Himachal Pradesh (4.73%) followed by Nagaland (5.19%), Orissa (6.32%), Assam (7.69%) and Bihar (8.43%).

The map shows that in majority of the States and Union Territories, people live more in towns with population more than 20,000 than in towns with population below 20,000.

In the Union Territories of Delhi and Manipur, the entire urban population live in towns with population more than 20,000, while in Andaman and Nicobar Islands; Nagaland; Himachal Pradesh and SIKKIM, the people live in towns with population below 20,000.

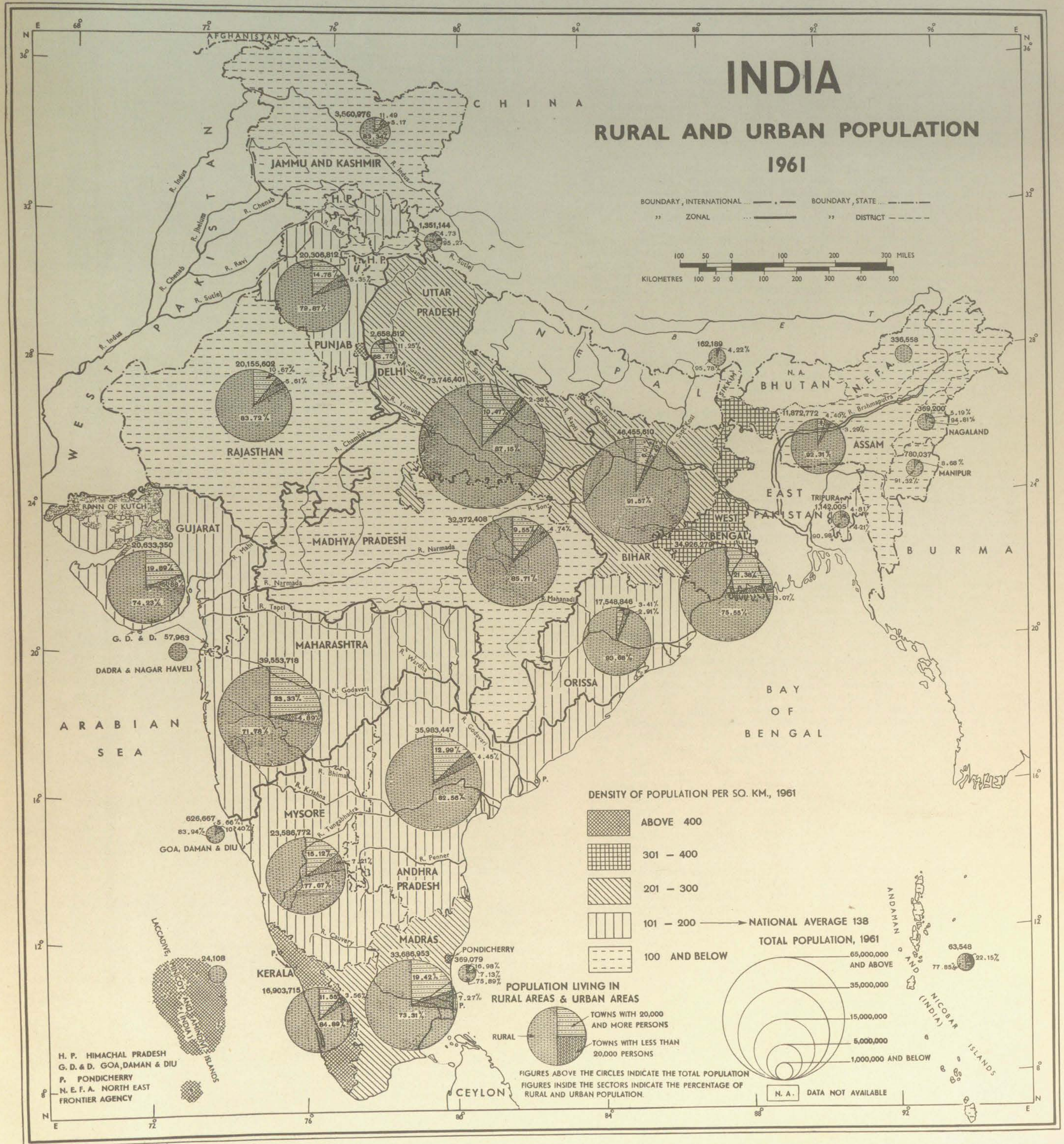
The table below gives percentage distribution of population living in rural and urban areas to total population in each State/Union Territory.

Sl. No.	State/Union Territory	Percentage of urban population to total population	Percentage of rural population to total population
1	2	3	4
	INDIA	17.97	82.03
	STATES		
1	Andhra Pradesh	17.44	82.56
2	Assam	7.69	92.31
3	Bihar	8.43	91.57
4	Gujarat	25.77	74.23
5	Jammu and Kashmir	16.66	83.34
6	Kerala	15.11	84.89
7	Madhya Pradesh	14.29	85.71
8	Madras	26.69	73.31
9	Maharashtra	28.22	71.78
10	Mysore	22.33	77.67
11	Orissa	6.32	93.68
12	Punjab	20.13	79.87
13	Rajasthan	16.28	83.72
14	Uttar Pradesh	12.85	87.15
15	West Bengal	24.45	75.55
	UNION TERRITORIES AND OTHER AREAS		
1	Andaman and Nicobar Islands	22.15	77.85
2	Delhi	88.75	11.25
3	Himachal Pradesh	4.73	95.27
4	Laccadive, Minicoy and Amindivi Islands	...	100.00
5	Manipur	...	100.00
6	Tripura	8.68	91.32
7	Dadra and Nagar Haveli	9.02	90.98
8	Goa, Daman and Diu	...	100.00
9	Pondicherry	16.06	83.94
10	North-East Frontier Agency	24.11	75.89
11	Nagaland	5.19	100.00
12	SIKKIM	4.22	95.78

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

RURAL AND URBAN POPULATION 1961



DISTRIBUTION OF URBAN CENTRES CLASSIFIED BY SIZE OF POPULATION AND GROWTH CHARACTER IN WESTERN ZONE, 1961

Purpose : This map depicts the distribution, location and growth character of urban centres classified by size of population in Western Zone of India, comprising the States of Gujarat, Maharashtra and the Union Territories of Dadra and Nagar Haveli and Goa, Daman and Diu excluding Goa as in 1961.

Method : According to 1961 Census, urban centres of India have been classified into six classes—Class I (100,000 & above); Class II (50,000—99,999); Class III (20,000—49,999); Class IV (10,000—19,999); Class V (5,000—9,999); and Class VI (Less than 5,000). But for this map Class I cities have been further sub-divided into three categories, viz., Class I (a)—(2,500,000 & above), Class I (b)—(1,000,000—2,499,999) and Class I (c)—(100,000—999,999). Cities and towns have been inserted in this map by spheres proportionate to their population under each class. Growth-rate of each of the cities/towns during 1951—61 has been shown by different colours indicating very high, high, medium and low growth-rate. New towns are shown in light green. The towns which show negative growth-rate are shown in black, while declassified towns are shown in black with a dotted brown circle around them. In an inset map of India, location of Western Zone has been shown by hatching.

Salient Features : Distribution Pattern—In the Western Zone, urban centres are unevenly distributed. Urban concentrations are more in the northern and western parts than in the south-eastern part of this zone. A glance at the map reveals four conspicuous features, viz., (i) heavy urban agglomerations, particularly around Greater Bombay and Ahmedabad; (ii) linear urban concentrations along the transport lines in the northern part of Maharashtra; (iii) sporadic distribution in the south-eastern part of Maharashtra and (iv) areas without any urban population lying south of the Rann of Kutch in Gujarat and Dadra and Nagar Haveli.

There are altogether 449 urban centres throughout the Western Zone of which 266 cities and towns, accounting for 9.85 per cent of the total urban centres of the country occur in the State of Maharashtra.

The biggest agglomeration of urban centres of Maharashtra may be seen around Greater Bombay which alone supports 37.20 per cent of the total urban population of the State. Out of 11.16 million of urban population in 266 urban centres, 4.73 million live in thirty one cities and towns within a radius of 100 kms. of Greater Bombay. Out of these thirty one urban centres, three belong to class I category—Greater Bombay, Thana and Ulhasnagar; one Class II town—Kalyan; four Class III towns—Bassein, Bhivandi, Ambarnath and Lonavla and the remaining 23 fall under categories between Class IV and Class VI. It is really fascinating to note that out of the above 4.73 million of urban population, about 87.66% is found in Greater Bombay—the leading industrial and commercial hub of India. A few small urban agglomerations may be seen around Poona, Kolhapur, Nasik and Jalgaon.

There are 181 urban centres in the State of Gujarat supporting about 5.32 million of population. Urban centres in Kathiawar Peninsula are dispersed while those in Gujarat plain are centralised mainly around the city of Ahmedabad. This city has radiated its impulse in all directions, particularly towards south. Out of total urban settlements in the State, fifty two cities and towns with a population of 2.5 million lie within a radius of 100 kms. from Ahmedabad town-group [Ahmedabad, Ahmedabad Cantt. (Military), Ahmedabad Cantt. (Civil), Naroda, Sahijpur Bogha and Ranip] itself shares 49.08% of the above urban population of the State. It has also been observed that out of 5.32 million of urban population of the State only 46.22% reside in fifty two urban centres, lying in the northern part of Gujarat plains. Out of six class I cities, Ahmedabad and Baroda are very near to each other, the intervening rural space between them hardly exceeds 100 kms. Besides, four class II towns (Patan, Cambay, Godhra and Nadiad), sixteen class III towns and the remaining 30 small towns with population below 20,000 also lie in this part. The presence of adequate means of communications, favourable climate, capital and credit facilities have probably encouraged the growth of the cotton industry in this State. As a result, a number of small and medium sized towns engaged in cotton ginning, pressing, spinning etc. have sprung up in the vicinity of Ahmedabad city—the most famous textile centre in India. Other urban centres (15 towns) are scattered in a triangular area of Gujarat bounded by the National Highway, running from Jetpur to Porbandar in the north, Jetpur-Veraval railway line in the east and the Arabian sea coast in the south as the base of the triangle.

Six district arterial developments in urban centres mainly along the transport lines are seen in the Western Zone. Thirty six urban centres are situated along the Bombay-Nagpur railway line, the longest rail-route of Maharashtra, covering a distance of 760 kms. and passing through the heart of cotton-growing tract. Another important linear concentration of cities and

towns is noticed along the National Highway and railway line, connecting the metropolises of Bombay and Ahmedabad. Within a distance of 480 kms. stretching from Bombay to Ahmedabad, there are 35 urban settlements, most of which are small and medium sized towns. The other two linear developments of urban centres are seen along the railways and National Highway, from Bombay to Poona with bifurcations after Poona into three lines towards Miraj, Kolhapur and Sholapur. The fifth linear concentration of urban settlements is visible along the rail-route, covering about 370 kms. from Ahmedabad to Okha Port. About eighteen towns lie along the Ahmedabad-Bhavnagar rail-route. Out of them, three are Class I cities (Ahmedabad, Rajkot and Jamnagar), seven Class III towns and the remaining are small towns with a population less than 20,000. A linear growth of urban centres on a smaller scale is visible, in crescent shape, along the coastal region of Gujarat from Byet Port to Cambay.

A vast cotton-growing triangular tract in Maharashtra bounded by the Bombay-Nagpur railway line in the north, Bombay-Sholapur transport lines in the west and the Maharashtra State boundary in the south-east shows a sprinkled distribution of urban centres, mainly of small size. Among these small urban centres—Aurangabad, Jalna, Chanda, Nanded and Barsi are all class II towns. Ahmednagar is the biggest urban centre of this region, supporting 0.12 million of people. Most of these urban centres are closely associated with the agro-processing industries, based specially on cotton and oilseeds. It is quite probable that in the absence of large-scale manufacturing industries over this tract, urban settlements are mainly small and of medium sizes.

The entire marshy area of the Rann of Kutch and Dangs district of Gujarat State and the Union Territory of Dadra and Nagar Haveli are completely devoid of urban population.

Growth Character—Out of 449 cities/towns in this Zone only 11 show a very high growth-rate (75% and above) during 1951—61. Among them Malegaon is Class I city and Ichalkaranji Class II town in the districts of Nasik and Kolhapur of Maharashtra State respectively. The remaining are relatively small towns scattered mainly in Gujarat State. Gandhidham (Class III) in Kutch district of Gujarat records the highest growth-rate (420.70%) followed by Dombivli (127.08%) in Thana district of Maharashtra and Sahijpur Bogha (124.87%) in Ahmedabad district of Gujarat State.

Towns showing a fairly high growth-rate (50.00—74.99%) are fifteen in number of which only one is Class I, two Class II, 5 Class III and the remaining are small towns with population below 20,000. Out of these towns nine are in Maharashtra and six in Gujarat State.

About 131 towns of the Western Zone (Class I—13, II—9, III—35 and IV to VI—74) record a moderately high growth-rate (25.00—49.99%). Majority of these towns show a growth-rate between 30.00% and 40.00%. Only Class I and Class III towns exhibit a relatively high growth-rate (40.00—50.00%).

Near about half the number of cities and towns (224) in this Zone record a growth-rate below 25.00%, which is lower than the National Average (26.41%). Of these towns a few are Class I and Class II cities, such as, Poona, Ahmednagar, Sholapur, Jalgaon, Broach, Patan (Mehsana), Morvi and Junagadh. Only two small towns with population below 20,000 in this Zone—Jawhar in Thana district and Srivardhan in Kolaba district of Maharashtra show a stagnated growth-rate—below 0.50%. They are isolated and inaccessible to the National Highways and railways.

In this Zone 37 towns are new. Out of which 22 are in Maharashtra sprung up mainly in the industrial belt connecting Bombay and Poona and 15 in Gujarat State finding their sites along the railways between Ahmedabad and Bombay.

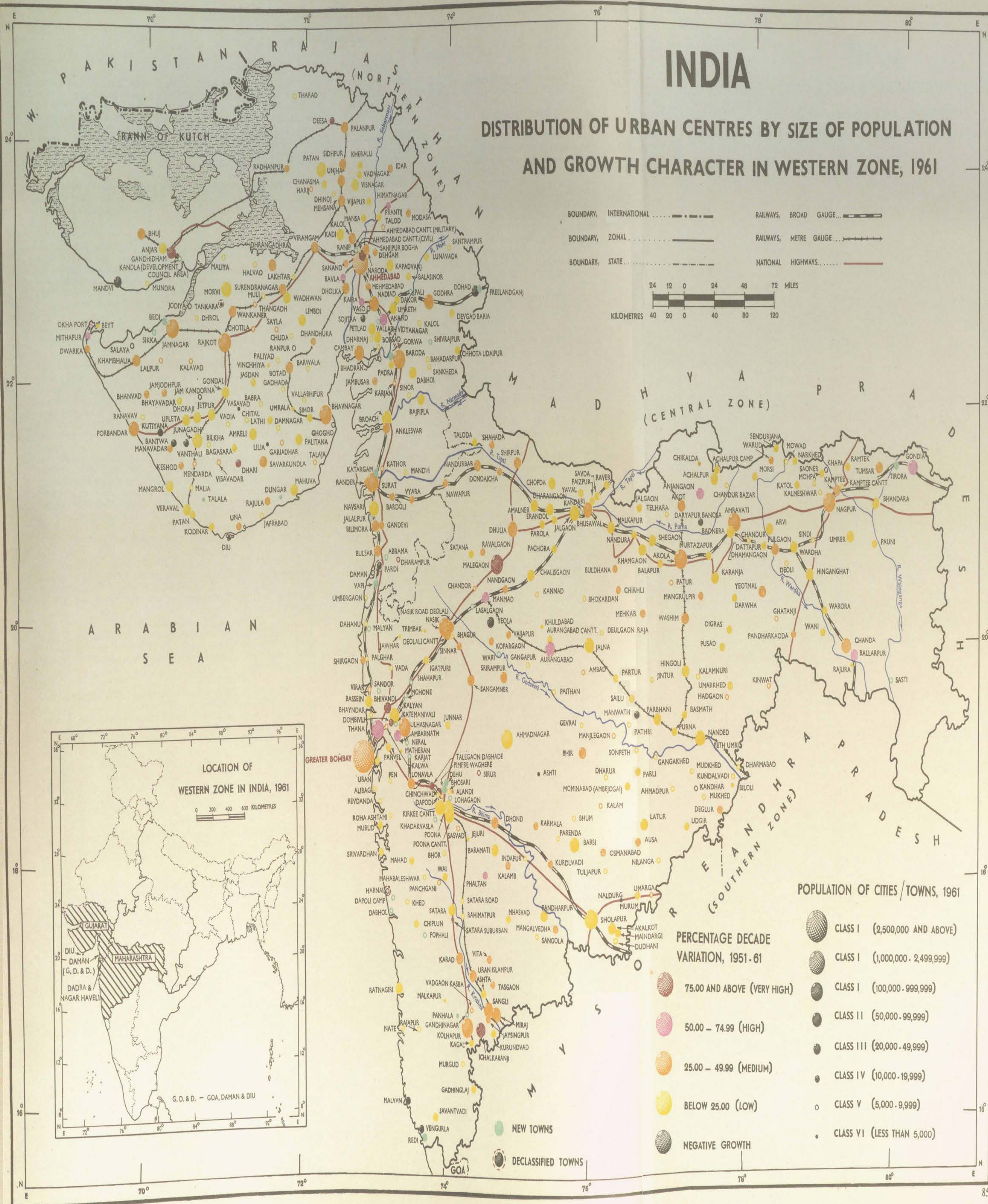
The towns which show a retarded growth-rate are more in Gujarat (16) than in Maharashtra (10). Only two among the medium sized towns—Yeola in Nasik district of Maharashtra and Mandvi in Kutch district of Gujarat show a negative growth-rate. The other towns showing losses in population are small sized towns with population below 20,000. Except for Ahmedabad Cantonment and Ranip in the suburban fringe of Ahmedabad City, all show dispersed locations away from the major town clusters and metropolises.

In this Zone, only 3 towns, viz., Pardi in Surat district and Tankara in Rajkot district of Gujarat and Harnai in Ratnagiri district of Maharashtra were declassified in 1951.

Source : — Census of India, 1961, Vol. I, India, Part II-A (i)—General Population Tables.

INDIA

DISTRIBUTION OF URBAN CENTRES BY SIZE OF POPULATION AND GROWTH CHARACTER IN WESTERN ZONE, 1961



DISTRIBUTION OF URBAN CENTRES CLASSIFIED BY SIZE OF
POPULATION AND GROWTH CHARACTER IN
NORTHERN ZONE, 1961

Purpose : The map portrays the distribution, location and growth character of urban centres classified by size of population in the Northern Zone, comprising the States of Jammu and Kashmir, Punjab, Rajasthan and the Union Territories of Himachal Pradesh and Delhi as in 1961.

Method : According to 1961 Census, urban centres of India have been classified into six classes—Class I (100,000 and above); Class II (50,000—99,999); Class III (20,000—49,999); Class IV (10,000—19,999); Class V (5,000—9,999) and Class VI (Less than 5,000). But in this map, Class I cities have been further sub-divided into two categories, viz., Class I (a)—(1,000,000—2,499,999) and Class I (b)—(100,000—999,999). In this map, cities and towns have been shown by spheres proportionate to their population under each class. Growth-rate of each of the cities/towns during 1951—61 has been shown by different colours indicating very high, high, medium and low growth-rate. New towns are shown in light green. The towns which show negative growth-rate are shown in black, while declassified towns are shown in black with a dotted brown circle around them. In an inset map of India, location of the Northern Zone has been shown by hatching.

Salient Features : *Distribution Pattern*—A glance at the map reveals the regional imbalance in respect of distribution of urban centres. The maximum concentration of urban centres of all sizes is in the Punjab Plain including Delhi Union Territory, while a thinner concentration is in Jammu and Kashmir State, Himachal Pradesh, hill areas of Punjab and the desert part of Rajasthan. There are 393 cities and towns throughout the Northern Zone which support more than ten million of urban population. Out of 393 cities and towns, 192 lie in the Punjab and Delhi Union Territory (population over 6 million), 145 in Rajasthan (population over 3 million), 43 in Jammu and Kashmir (population about 6 lakhs) and 13 in Himachal Pradesh (population about 64 thousand).

A close study of the map reveals the following features :— (a) in the Punjab Plain, a very high agglomerations of urban centres are along the railways and the National Highways; (b) urban centres in Rajasthan are relatively dispersed in distribution; (c) urban centres of Jammu and Kashmir State are found in number in the valley of Srinagar and on the southern spur of the Siwalik hills and (d) only a few small towns are seen in the outer Himalayan Region of Punjab and Himachal Pradesh.

A very distinctive agglomeration of urban centres is noticed around the Union Territory of Delhi. Three urban centres—Delhi (2,061,758 persons); New Delhi (261,545 persons) and Delhi Cantt. (36,105 persons) form the metropolitan city of Delhi with more than two million of population. Administrative, commercial and small industrial functions of this city have stimulated the growth of a number of small satellite towns to its south. A string of towns (Gurgaon, Faridabad town group, Ballabgarh, Palwal and Hodal etc.) follows the transport line in the south parallel to the river Yamuna. Within a radius of 100 kms. from Delhi on the right bank of the Yamuna, there are two class I cities, three class II towns, seven class III towns and 19 towns belonging to classes IV, V and VI. These urban centres are situated either along the railway lines or along the National Highways.

Numerous urban centres (189) are seen in the Punjab Plains where canal irrigation makes a prosperous base for farming, trade and commerce, and agro-processing industry. This condition has possibly given impetus to the growth of a large number of towns with population below 20,000, which are mainly service and market centres. These small towns are very closely spaced. There are four distinct belts of urban centres in the Punjab plain—(i) a string of towns stretching for about 400 kms. from Fazilka to Delhi, of which two are class II towns—(Rohtak and Hissar), five are class III towns (Hansi, Sirsa, Malout, Abohar and Fazilka) and the rest are small with a population size below 20,000; (ii) another line of urban concentration is found stretching for about 375 kms., from Ferozepur to Delhi which supports only one class II town (Bhatinda) and six class III towns (Jind, Mansa, Kot kapura, Faridkot, Ferozepur Cantt. and Ferozepur City); (iii) third stretch of urban agglomeration is along the railway line extending from Amritsar to Ambala for about 250 kms. It supports four class I cities (Amritsar, Jullundur city, Ludhiana and Ambala Cantt.) and about twenty urban centres of other sizes, and (iv) the fourth one stretching from Chandigarh to Delhi, covering about 225 kms. It may be pointed out in this connection that all these urban belts have followed the railway lines as well as the National Highways.

The south-eastern part of the Punjab Plain supports only medium and small sized towns. There are nine class III towns (20,000—49,999) and a number of small towns (less than 20,000) in this tract.

In the State of Rajasthan, the urban centres are very uneven in distribution. Some of the fort cities are visible in the Aravallis and its foothill regions. More than three million people live in 145 cities and towns which are sporadic in distribution. A distinct urban agglomeration is noticed in the Chambal basin, where one class I city (Kota) and fifteen class III towns predominate. Some of the towns find their sites along the tributaries of river Chambal and are connected by railway and are served by surfaced roads.

Out of 393 urban centres in the Northern Zone, six Class I cities (Jaipur, Bikaner, Jodhpur, Udaipur, Kota and Ajmer) lie in Rajasthan. The city of Ajmer occupies almost the central position in the State. Other big urban centres are dispersed in all directions. In the immediate vicinity of Ajmer, there are three medium sized towns, viz., Kishangarh, Nasirabad Cantt. and Beawar; Bikaner has three small townships viz., Gangashahar, Bhinasar and Deshnoke, mostly lying in its south. Amber is the nearest satellite town of Jaipur—the capital of the State.

The desert part of Rajasthan shows a very thin spread of urban settlements. Anupgarh, Didwara, Jaisalmer, Pokaran, Phalodi, Jalor, Balotra, Suratgarh and Bhinmal etc. are small towns with population below 20,000 and they are widely spaced in distribution.

In Jammu and Kashmir State, urban concentrations may be seen principally in the valley of Srinagar. Throughout the State, there are forty three urban centres of which two centres (Srinagar and Jammu) come under the category of Class I (100,000—999,999). About two-third area of the State, is completely devoid of urban settlements. Leh is the only town in the North with a population of 3,720 lying on the northern bank of river Indus.

Mountainous and forested areas of Himachal Pradesh support about 64,000 urban population in thirteen small urban centres of Class IV to Class VI.

Growth Character — Out of 393 towns of this Zone, only 29 towns of all categories (Class I—2, II—2, III—5, IV to VI—20) show a very high growth-rate (75% and above). Majority of these towns are situated in the States of Punjab (17 towns) and Rajasthan (9 towns). In Himachal Pradesh only two towns and in Delhi one town show a very high growth-rate. None of the towns in Jammu and Kashmir State has a very high growth-rate of population. Kot Fateh (Class VI town) in Bhatinda district of Punjab has recorded the highest growth-rate (495.00%), followed by Fatehabad town in Hissar district (319.85%), Yamunanagar in Ambala district (229.64%) and Sangat in Bhatinda district (208.04%). Except Yamunanagar, the other three towns supported a very small population in 1951. These towns are located in the cotton-growing belt where the expansion of commercial activities in the last decade caused the accretions of a few thousands of population in these small towns. Yamunanagar showed a high growth-rate, perhaps, because of some progress in industrial and commercial activities around Jagadhri town group. Two class I cities (Delhi and Kota) also fall in this range and record a growth-rate exceeding 84%.

Only 24 towns (Class I—1, II—2, III—5, IV to VI—16) fall under the next range of high growth-rate of population (50.00—74.99%). They are situated mostly in Punjab (15 towns) and Rajasthan (7 towns); Himachal Pradesh and Jammu and Kashmir also have one town each showing this range of growth-rate.

In all, 113 towns in this Zone show a medium growth-rate of population (25.00—49.99%) mainly distributed in Punjab (54 towns) and Rajasthan (47 towns). Himachal Pradesh and Jammu and Kashmir have 6 towns each of similar growth-rate.

About 40% of the total towns in this Zone (155 towns) show a low growth-rate of population (Below 25%). They are shared mainly by Rajasthan (71 towns), Punjab (68 towns), Jammu and Kashmir (14 towns) and Himachal Pradesh (2 towns). Among these towns of low growth-rate about three-fourth are small towns with population below 20,000 each. The remaining are distributed among Class I (6), Class II (7) and Class III (22). Of the six class I cities of Northern Zone showing a low growth-rate, three cities are in Rajasthan, two in Punjab and one in Jammu and Kashmir State. Each of these class I cities of Rajasthan are old capitals of the princely States. The industrial and service cities of Amritsar and Ambala Cantt. in Punjab and Srinagar, the capital of Jammu and Kashmir also show low growth-rate.

On the whole 29 new towns have sprung up in this zone in 1961 of which 24 towns are equally shared by Jammu and Kashmir and Punjab, and the remaining towns are in Rajasthan (3) and Himachal Pradesh (2).

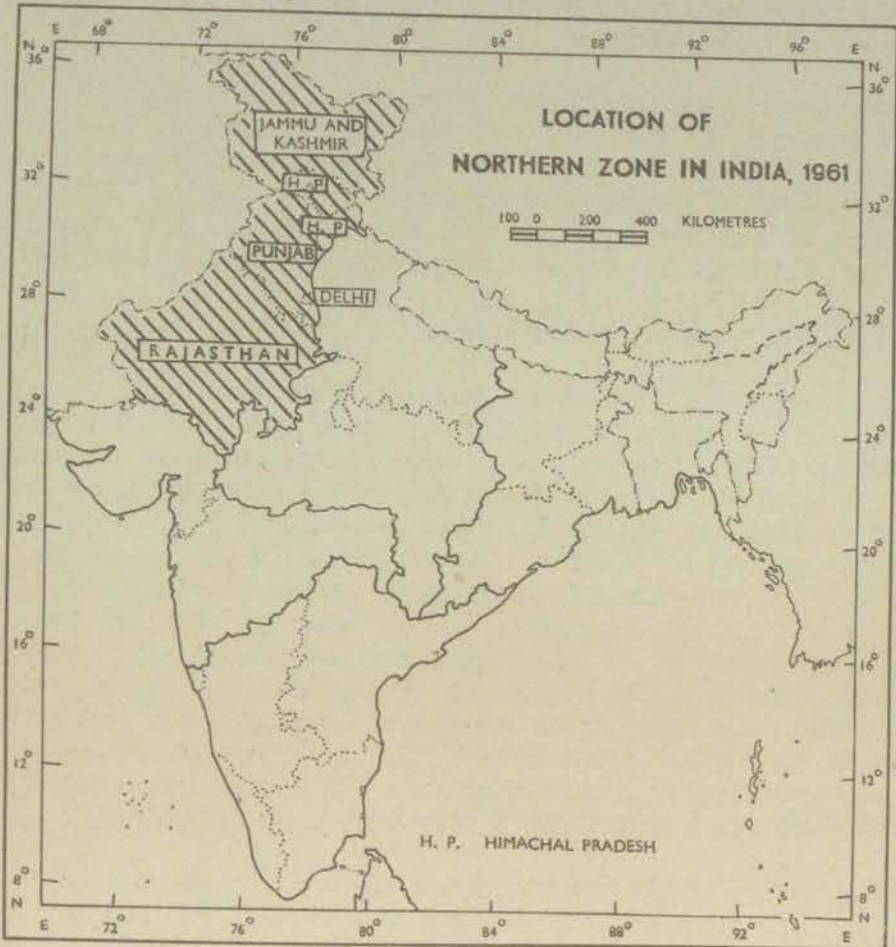
In this Zone 34 towns show a negative growth-rate of population. They are mainly distributed in the States of Punjab (20), Rajasthan (8) and Jammu and Kashmir (4). Out of three towns of Delhi Union Territory, 2 towns (New Delhi and Delhi Cantt.) show a negative growth-rate. Ratangarh, Kishangarh, Nasirabad Cantt. and Nawalgarh in Rajasthan and Batala in Punjab are some of the towns where the size of population has declined during the last decade.

In all, 9 towns have been declassified in this Zone in 1951. They are class VI towns shared by Jammu and Kashmir State (6) and Punjab State (3).

Source :— Census of India, 1961, Vol. I, Part II-A(i)—General Population Tables.

INDIA

DISTRIBUTION OF URBAN CENTRES BY SIZE OF POPULATION AND GROWTH CHARACTER IN NORTHERN ZONE, 1961



BOUNDARY, INTERNATIONAL
 BOUNDARY, ZONAL
 BOUNDARY, STATE
 NATIONAL HIGHWAYS
 RAILWAYS, BROAD GAUGE
 RAILWAYS, METRE GAUGE

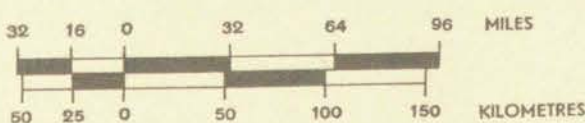
REFERENCES	
1	DHILWAN (PUNJAB)
2	JULLUNDUR CANTT. "
3	NALAGARH "
4	JUTOGH CANTT. "
5	URMAR TANDA "
6	MURINDA "
7	GOBINDGARH "
8	SIRHIND "
9	RAJPURA TOWNSHIP "
10	SHAHBAD "
11	KOT FATEH "
12	BAHADURGARH "

PERCENTAGE DECADE VARIATION, 1951-61

- 75.00 AND ABOVE (VERY HIGH)
- 50.00 - 74.99 (HIGH)
- 25.00 - 49.99 (MEDIUM)
- BELOW 25.00 (LOW)
- NEGATIVE GROWTH
- NEW TOWNS
- DECLASSIFIED TOWNS

POPULATION OF CITIES / TOWNS, 1961

- CLASS I (1,000,000 - 2,499,999)
- CLASS I (100,000 - 999,999)
- CLASS II (50,000 - 99,999)
- CLASS III (20,000 - 49,999)
- CLASS IV (10,000 - 19,999)
- CLASS V (5,000 - 9,999)
- CLASS VI (LESS THAN 5,000)



DISTRIBUTION OF URBAN CENTRES CLASSIFIED BY SIZE OF POPULATION AND GROWTH CHARACTER IN EASTERN ZONE, 1961

Purpose : The map shows distribution and growth character of urban centres classified by size of population in the Eastern Zone, embracing the States of Assam, Bihar, Orissa, West Bengal and the Union Territories of Manipur, Tripura, North-East Frontier Agency, Nagaland and Sikkim. The Union Territory of Andaman and Nicobar Islands has been considered in this Zone.

Method : According to 1961 Census, urban centres of India have been classified into six classes—Class I (100,000 and above); Class II (50,000—99,999); Class III (20,000—49,999); Class IV (10,000—19,999); Class V (5,000—9,999) and Class VI (Less than 5,000). But for this map Class I cities have been further sub-divided into two categories viz., Class I (a)—(2,500,000 and Above), and Class I (b)—(100,000—999,999). In this map, cities and towns have been shown by spheres proportionate to their size of population. Growth-rate of each of the cities/towns during 1951—61 has been shown by different colours indicating very high, high, medium and low growth-rates. New towns are shown by light green colour. The towns which show negative growth-rate are shown in black, while declassified towns are shown in black with a dotted brown circle around them. In an inset map of India, the position of Eastern Zone has been shown by hatching.

Salient Features : Distribution Pattern—This map shows a great regional imbalance in the distribution of urban centres in the Eastern Zone. The major concentrations of urban centres of all sizes are along the river-valleys, while forested hills and plateaus have a few urban centres. In this Zone, there are altogether 471 cities and towns, supporting about 14·69 millions of population. Out of 471 urban centres, 184 lie in West Bengal (with 8·54 millions); 153 in Bihar (with 3·91 millions); 62 in Orissa (with 1·11 millions) and 60 in Assam (with 0·91 millions). The remaining urban centres lie in the Union Territories of Tripura, Manipur, Nagaland, Andaman and Nicobar Islands and Sikkim.

In the Eastern Zone large number of urban centres (184 out of 471) are found in the State of West Bengal. They support about 8·54 millions of population. The heaviest agglomeration of urban centres is in the Hooghly basin, around the twin-cities of Calcutta and Howrah. A very conspicuous arterial development of urban centres is noticed along the Bhagirathi—Hooghly river. There are 77 urban centres of all sizes which lie in the Calcutta Industrial Region. Out of these, there are 9 Class I cities, 10 Class II towns, 18 Class III towns and 41 towns of population size below 20,000. It is interesting to note that out of 12 Class I cities in West Bengal, the Calcutta Industrial Region alone constitutes 9 cities (Calcutta, Howrah, South Suburban, Baranagar, Bally, Garden Reach, Kamarhati, South Dum Dum and Bhatpara). A linear concentration of 41 urban centres is noticed to the north of the twin-cities of Calcutta and Howrah of which five are Class I cities. To the South of these twin-cities, there is an agglomeration of 34 urban centres, stretching upto a distance of 25 kms. Except six urban centres (Garden Reach, Nangi, Budge-Budge, Panchur, Rajpur and South Suburban), the rest are small towns with population below 20,000 each which are scattered in location. Another big cluster of urban centres has come up in the Damodar Valley in the wake of mining and industrial activities. A small agglomeration of small towns, mostly Class V towns, are seen to the North of Kharagpur.

The State of Bihar ranks second in numerical strength in its urban centres in this Zone. There are altogether 153 cities and towns, supporting more than 3·91 millions of population. A very distinct urban agglomeration is noticed along the main transport lines, running almost parallel to the Ganga in Bihar where 31 urban centres predominate. Out of these, only two are Class I cities (Patna and Bhagalpur), 3 are Class II towns (Monghyr, Jamalpur and Arrah), 12 are Class III towns and the remaining are small towns with population less than 20,000. The urban centres are widely spaced in the South Bihar Plateau in comparison to the North of the Ganga where the distribution of urban centres is dispersed. Muzaffarpur and Darbhanga are the only Class I cities in the North Bihar plains. A distinct urban agglomeration of 13 towns is noticed in the Dhanbad-Jharia-Sindri Industrial belt. Out of 13 towns, this belt supports one Class II town (Dhanbad); two Class III towns (Sindri and Jharia); four Class IV towns (Jorapokhar, Bhowrah, Loyabad and Katras-cum-Salanpur) and the remaining are small towns below 20,000 population size. The mining and industrial activities have given impetus to the growth of these towns. Away from the Ganga river in the south, two important Class I cities—Jamshedpur (industrial) and Ranchi lie in the Chotanagpur Plateau. Gaya, an important religious centre on the railway line supports more than 1·5 lakhs of population. Other than these, smaller urban centres of population size below 5,000 are scattered in distribution throughout the State.

In Orissa, there are 62 urban centres, supporting 1·11 million persons. Concentration is more on the coast than in the interior plateau. Within a radius of about 40 kms. from Cuttack 7 towns have sprung up. In the wake of rapid industrialization programme in the country, Rourkela (90,287 persons) has grown up as one of India's three new steel towns, on the main Calcutta

Bombay rail-route. Birmittapur (Class III town) lies North of this industrial town of Rourkela. Four other Class IV towns (Sundargarh, Brajarajnagar, Rajgangpur and Jharsuguda) have developed along the same transport line. A very small agglomeration of urban centres is noticed to the South of Rourkela near Sambalpur (Class III) where two satellite towns, viz., Burla and Hirakud have come up on account of the construction of the Hirakud Dam in the Upper Mahanadi basin. Bhubaneswar is the new capital of Orissa, supporting more than 38 thousands of population. The remaining urban centres are sporadic in distribution. The hills and forested parts of Orissa are devoid of urban population.

The State of Assam supports 0·91 million in 60 urban centres. Most of the urban centres are seen in the Brahmaputra Valley located along the main transport lines. Gauhati (100,707 persons), the only Class I city of Assam State is on the left bank of the Brahmaputra river. Shillong (Class II)—the capital of the State, with its three satellite towns, lies in United Khasi and Jaintia Hills district. Dibrugarh—another Class II town lies in the heart of tea plantation area of upper Assam valley. Besides, there are 10 Class III towns which are located in different parts of the State. The forest clad hill areas show insignificant growth of urban centres.

As regards the Union Territories of Eastern Zone; Tripura has 6 small urban centres supporting in all over one lakh of population; Nagaland has three Class V towns (Kohima, Dimapur and Mokokchung). Imphal is the only Class II town in the Union Territory of Manipur. Port Blair, a Class IV town, is the headquarters of the Andaman and Nicobar Islands. The mountainous areas of North-East Frontier Agency are completely devoid of urban population.

Gangtok (6,848 persons) is the capital of Sikkim.

Growth Character—It is worth noticing that the pace of urbanization in this Zone is much faster than that in other Zones as is evident from its very high growth-rate (75% and above) of urban population in the last decade 1951—61. Of the total 147 towns of India showing a very high growth-rate, 52 towns are found in this Zone against 31 in Southern Zone, 29 in Northern Zone, 24 in Central Zone and 11 in Western Zone. More than 40% of these cities/towns with a high growth-rate of population are concentrated in Calcutta Industrial Region and in the Damodar Valley area of West Bengal. Other towns showing a rapid growth of population are the oil-refinery towns such as Barauni, Gauhati and Tinsukia which are important railway junctions too. Growth of population has been most rapid for Imphal town (2,266·07%) in Manipur followed by Ondal town (334·82%) in Burdwan district of West Bengal. Some of the mining and industrial towns in Orissa such as Baripada, Birmittapur and Sundargarh also show a very high growth-rate.

Thirty four towns in the Eastern Zone show a growth-rate of the range (50·00—74·99%). The State of West Bengal has by far the largest share of these towns (13), followed by Bihar (11), Assam (6) and Orissa (4). Most of these towns in West Bengal are concentrated in the Calcutta Industrial Region where in other States they are sporadic in distribution.

More than one-fifth of the total towns of the Eastern Zone (101 towns) fall under the medium range of growth-rate (25·00—49·99%). They are scattered all over the Zone but are more frequent in Lower Bengal Bihar Plain and coastal Orissa. West Bengal has 43 towns, Bihar 39, Orissa 12 and Assam 6 towns with this range of growth-rate. In all 8 Class I cities, viz., Baranagar, Asansol and Burdwan in West Bengal; Patna, Muzaffarpur, Bhagalpur and Jameshedpur in Bihar and Cuttack in Orissa record a medium growth-rate of population.

Ninety cities/towns in this Zone show a growth-rate below 25 p.c. The twin-cities of Calcutta and Howrah and their adjacent cities of Garden Reach, Bhatpara and Kharagpur in West Bengal; Darbhanga, Monghyr, Gaya and Ranchi in Bihar; Puri and Berhampur in Orissa are the towns which record a low growth-rate. Ramjibanpur (Class V) town in Midnapore district of West Bengal records growth-rate (1·09%) in this Zone.

176 new towns have sprung up in the Calcutta Industrial Region and Damodar Valley area of West Bengal, in Assam Valley, Bihar Plain and northern part of Orissa. The next worth-mentioning towns in the Calcutta Industrial Region are Nangi, Panchur, New Barrackpur Colony, Habra and Ashoknagar; Pandu in Assam Valley and Jaridih Bazar and Durgapur in Damodar Valley in West Bengal (all Class III towns).

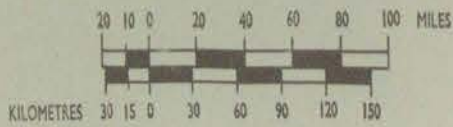
Only 14 towns show a negative growth-rate of population in this Zone of which Barahiya, Dinapur Nizamat are in Bihar and Bhadreswar and Ichhapur Defence Estate are in the Hooghly region.

Jugsalai, Doranda and Dinapur Cantt. in Bihar and Beldanga in West Bengal were the only towns declassified in this Zone in 1951.

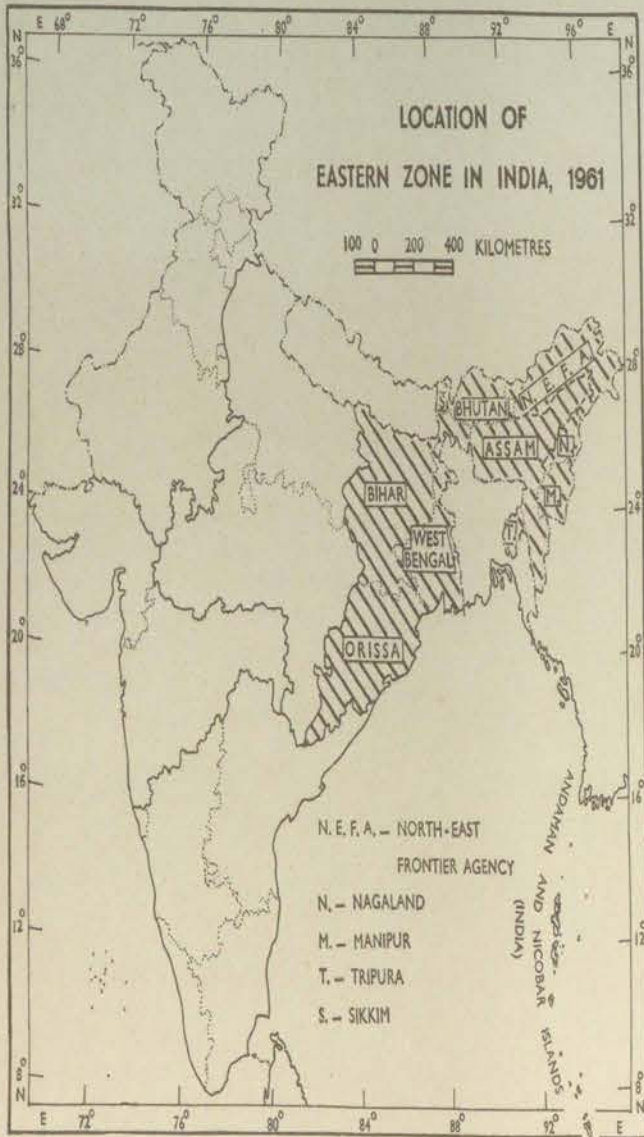
Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

DISTRIBUTION OF URBAN CENTRES BY SIZE OF POPULATION AND GROWTH CHARACTER IN EASTERN ZONE, 1961



- BOUNDARY, INTERNATIONAL ————
- BOUNDARY, ZONAL ————
- BOUNDARY, STATE ————
- NATIONAL HIGHWAYS ————
- OTHER ROADS ————
- RAILWAYS, BROAD GAUGE ————
- RAILWAYS, METRE GAUGE ————



POPULATION OF CITIES/TOWNS, 1961

- CLASS I (2,500,000 AND ABOVE)
- CLASS II (1,00,000 - 999,999)
- CLASS III (50,000 - 99,999)
- CLASS IV (20,000 - 49,999)
- CLASS V (10,000 - 19,999)
- CLASS VI (5,000 - 9,999)
- CLASS VII (LESS THAN 5,000)

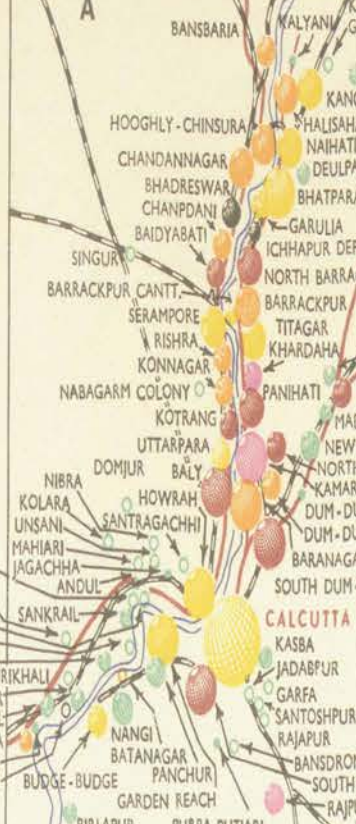
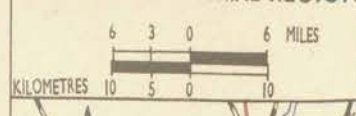
NEW TOWNS

DECLASSIFIED TOWNS

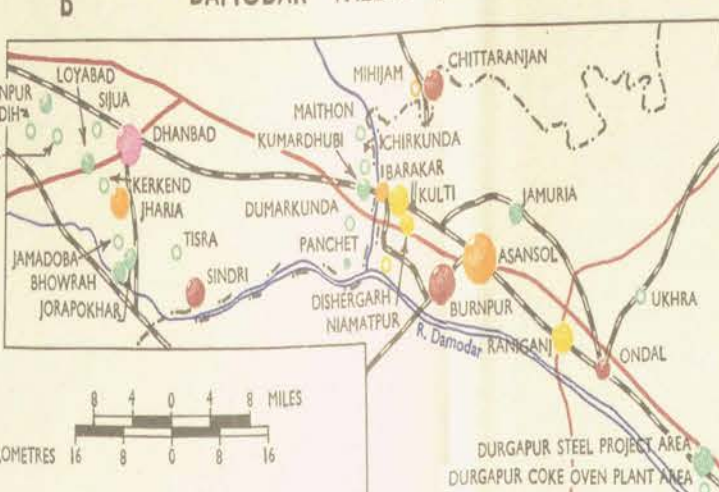
PERCENTAGE DECADE VARIATION, 1951 - 61

- 75.00 AND ABOVE (VERY HIGH)
- 50.00 - 74.99 (HIGH)
- 25.00 - 49.99 (MEDIUM)
- BELOW 25.00 (LOW)
- NEGATIVE GROWTH

CALCUTTA INDUSTRIAL REGION



DAMODAR VALLEY REGION



DISTRIBUTION OF URBAN CENTRES CLASSIFIED BY
SIZE OF POPULATION AND GROWTH CHARACTER
IN CENTRAL ZONE, 1961

Purpose : This map depicts the distribution, location and growth character of urban centres classified by size of population in the Central Zone embracing the States of Uttar Pradesh and Madhya Pradesh as in 1961.

Method : According to 1961 Census, urban centres of India have been classified into six classes as mentioned in earlier analysis of maps. Cities and towns are shown in this map by spheres proportionate to their population under each class. Growth-rate of each of the cities/towns during 1951—61 has been shown by different colours indicating very high, high, medium and low growth-rates. New towns are shown in light green. The towns which show negative growth-rate are shown in black, while declassified towns are shown in black with a dotted brown circle around them. In an inset map of India, location of the Central Zone has been shown by hatching.

Salient Features : Distribution Pattern—In a primarily agricultural region like the Central Zone comprising the States of Uttar Pradesh and Madhya Pradesh, the areas showing distinctive urban belts are limited. In this Zone, however, there are altogether 486 cities and towns supporting about 14 millions of urban population of which 267 cities and towns lie in Uttar Pradesh and 219 urban centres in Madhya Pradesh.

The following features of the distribution of urban settlements in the Central Zone are discernible: (i) a large number of urban centres of all sizes and status is concentrated in the Ganga-Yamuna *doab* of Uttar Pradesh, while in Rohilkhand Plain and in the Eastern part of Uttar Pradesh, Western portion of Malwa Plateau, the urban centres are lesser in number; (ii) the mountainous part of Uttar Pradesh, the eastern and southern parts of Madhya Pradesh show a very thin distribution of urban centres; and (iii) all important urban centres which are the main foci of social and economic activities of the region generally follow the banks of the rivers, railway lines and the State and the National Highways.

The urban centres in Uttar Pradesh are very uneven in distribution. The western part shows a heavy agglomeration of urban centres, while the eastern part exhibits a thinner distribution. The total urban centres of the State, as recorded in 1961 Census, are 267, including 19 town groups, where about 9.45 million people live. Of the total urban settlements of the State, about two-third lie in the Ganga-Yamuna *doab* area and the western part of the Rohilkhand Plain. Out of seventeen class I cities of the State as many as nine cities (Bareilly T.G., Shahjahanpur T.G., Rampur, Moradabad T.G., Dehra Dun T.G., Saharanpur, Aligarh, Agra T.G. and Mathura T.G.) occur in these regions. This western part of the Rohilkhand Plains also supports about a dozen class II towns. A number of class III to class VI towns are scattered all over the *doab* and Rohilkhand areas and also in Eastern Uttar Pradesh. A few major cities (Varanasi, Allahabad, Gorakhpur, Mirzapur-cum-Vindhyachal) act as important centres of economic and commercial activities. Most of the class VI towns (population below 5,000) serve as local collecting and distributing centres. They find sites either along the rivers or railways or at transport-junctions.

Forests, rugged terrain and inadequate transport facilities etc. are some of the major handicaps to the growth of urban settlements in the State of Madhya Pradesh. Altogether, there are 219 cities and towns of all sizes where about 4.63 million of people reside. The maximum concentration of urban centres is noticed in the western sector around the cities of Indore and Bhopal. Besides, there are three more scattered urban clusters, viz., (i) Raipur-Bhilai-

nagar-Durg; (ii) Jabalpur-Khamaria; and (iii) Bhopal-Gobindpur-Bairagarh. Madhya Pradesh supports only six class I cities (Bhopal, Raipur, Indore, Ujjain, Jabalpur and Gwalior) and six class II towns (Ratlam, Bilaspur, Bhilai-nagar, Sagar, Burhanpur and Khandwa) which are located in different parts of the State. Out of 219 towns in Madhya Pradesh, there are 207 small towns in the category of class III to class VI towns. They are located particularly along the transport lines, rivers, roads and railways. The area lying in the Vindhya range including the Vindhya scarplands, the Satpura range, the Maikal hills and some parts of the Dandakaranya region are distinctly under-urbanised.

Growth Character—Out of 486 towns in this Zone only 24 towns (one Class I, one Class II, seven class III, and fifteen Class IV to VI towns) record a very high growth-rate (75% and above) and they are distributed more in Madhya Pradesh (16) than in Uttar Pradesh (8). Nargada Hari Dafai Colliery town (Class IV) in Shahdol district of Madhya Pradesh shows an extraordinary high growth-rate (573.67%) followed by Babina Cantt. (289.44%) in Jhansi district of Uttar Pradesh. Other worth-mentioning towns show a very high growth-rate (75% and above) are Bhopal, Bilaspur, Durg, Rajnandgaon, Dhamtari, Bina (Etawa) and Shahdol in Madhya Pradesh and Modinagar, Chakrata Cantt., Uttar Kashi and Kotdwara in Uttar Pradesh. They are either industrial or mining centres or transport junctions or Cantonment towns.

In all twenty-three towns of all sizes show a high growth-rate between 50.00% and 74.99%. They are either industrial or mining towns.

One hundred and thirty eight towns (twelve Class I, five Class II, thirty two Class III and eighty nine Class IV to VI towns) show a medium growth-rate (25.00—49.99%). Most of the Class I towns of this Zone fall under this range. These are Bareilly T.G., Aligarh, Agra T.G., Kanpur T.G., Lucknow T.G., Allahabad T.G., Varanasi T.G., Gorakhpur and Jhansi T.G. in Uttar Pradesh and Indore and Jabalpur in Madhya Pradesh.

Towns and cities in overwhelming number (211) in this Zone show a low growth-rate of population (Below 25.00%). More than two-third of these towns (145) are small towns with a population below 20,000. It is worth-mentioning that some of the class I cities also show a low growth-rate below 25%. They are Meerut T.G., Saharanpur, Dehra Dun T.G., Moradabad T.G., Rampur, Shahjahanpur T.G., Mathura T.G., Mirzapur-cum-Vindhyachal in Uttar Pradesh and Gwalior and Ujjain in Madhya Pradesh.

Not less than 60 towns in the Central Zone are new. They are usually satellite towns of the important industrial and mining nuclei of Madhya Pradesh. Among the new industrial towns, those worth-mentioning are the steel towns of Bhilai-nagar, Ordnance Factory Area Katni, Govindpura Industrial Township and Nagda Industrial Colony. There are some new mining towns and hydel power stations, such as, Rajhara Jharandalli Mining Colony, Umaria, Gandhi Sagar Hydel Colony in Madhya Pradesh and Pipri in Uttar Pradesh.

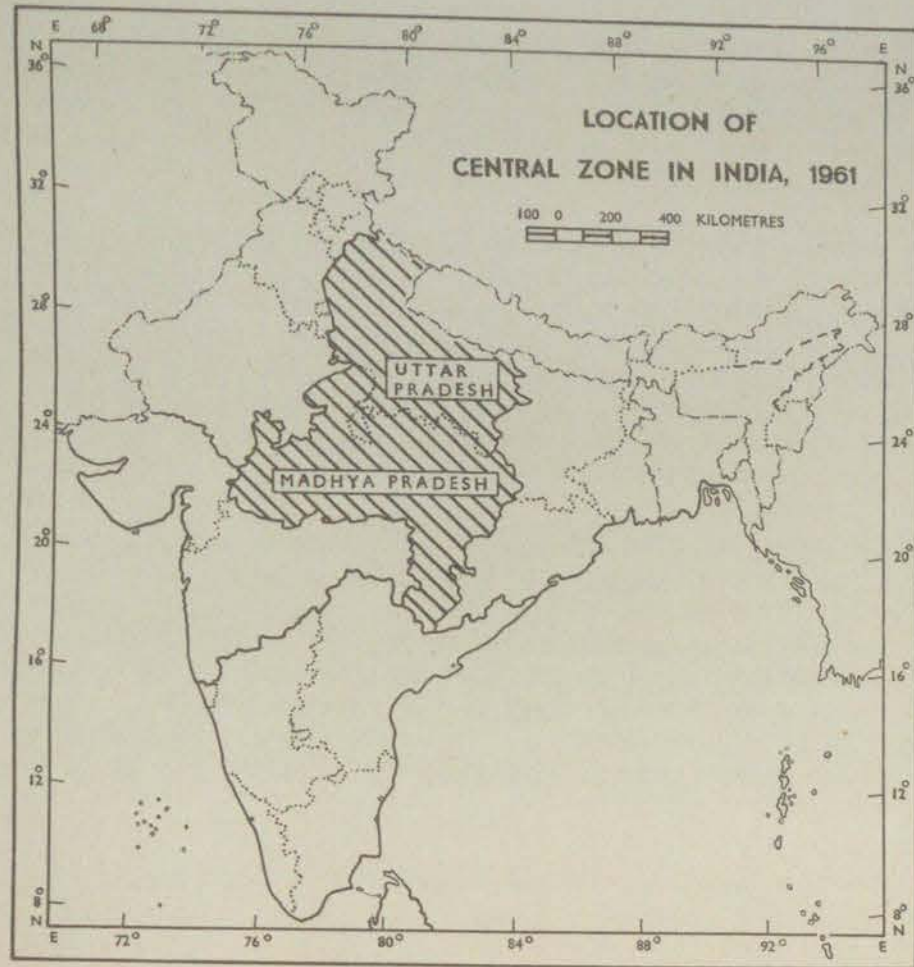
Only 13 towns show a negative growth-rate of population during 1951—61. They are mostly in Uttar Pradesh and are cantonment areas.

In all 17 towns have lost urban status in 1951 according to 1961 Census definition of urban centres. They all lie in Madhya Pradesh.

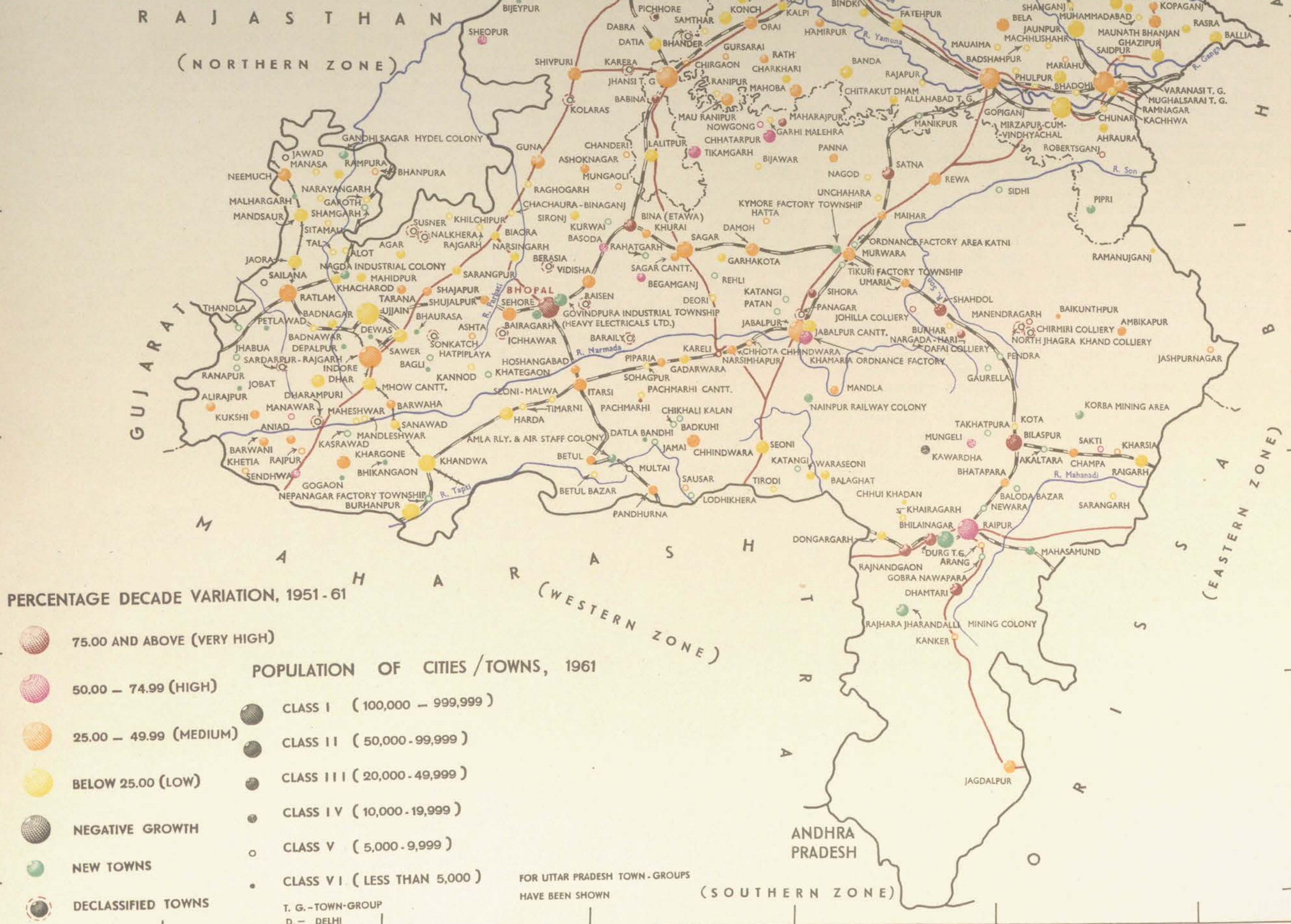
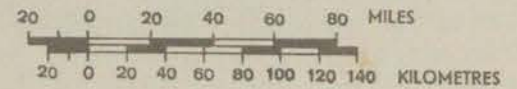
Source : Census of India, 1961. Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

DISTRIBUTION OF URBAN CENTRES BY SIZE OF POPULATION AND GROWTH CHARACTER IN CENTRAL ZONE 1961



- BOUNDARY, INTERNATIONAL ————
- BOUNDARY, ZONAL ————
- BOUNDARY, STATE ————
- NATIONAL HIGHWAYS ————
- OTHER ROADS ————
- RAILWAYS, BROAD GAUGE ————
- RAILWAYS, METRE GAUGE ————



DISTRIBUTION OF URBAN CENTRES CLASSIFIED BY SIZE OF POPULATION AND GROWTH CHARACTER IN SOUTHERN ZONE, 1961

Purpose : The map gives the distribution, location and growth character of urban centres classified by size of population in the Southern Zone, embracing the States of Andhra Pradesh, Madras, Mysore, Kerala and the Union Territories of Pondicherry, Laccadive, Minicoy and Amindivi Islands and Goa, Daman and Diu (excluding Daman and Diu) as in 1961.

Method : According to 1961 Census, urban centres of India have been classified into six classes as explained in the earlier notes. For the purpose of the present map, Class I cities have been further sub-divided into two categories, viz., Class I (a)—(1,000,000—2,499,999) and Class I (b)—(100,000—999,999). Cities and towns are shown in this map by spheres proportionate to their population under each class. Growth-rate of each of the cities/towns during 1951—61 has been shown by different colours indicating very high, high, medium and low growth-rate. New towns are shown in blue. The towns which show negative growth-rate are shown in black while declassified towns are shown in black with a dotted red circle around them. In an inset map of India, location of Southern Zone has been shown by hatching.

Salient Features : Distribution Pattern—This map brings out the striking imbalance in distribution of urban centres in Southern Zone. They are concentrated more in the south than in the north. A closer study of this map reveals four salient features about their distribution pattern—(a) linear concentration either along the coast or along the transport-lines; (b) growth of satellite towns around class I cities, such as, Madras, Bangalore, Madurai, Coimbatore, Vijayawada etc.; (c) smaller towns (population below 20,000) except Goa exhibit scattered distribution; (d) the hill and plateau regions show a very sparse distribution of urban centres mostly of the size less than 20,000 population. Laccadive, Minicoy and Amindivi Islands are devoid of urban population.

Throughout the Southern Zone including district Goa of the Union Territory of Goa, Daman and Diu, there are 901 urban centres which support more than 23 millions of urban population, constituting 29.4% of the country's total urban population. Out of 901 cities and towns, 223 lie in Andhra Pradesh (urban population 6.3 millions), 339 in Madras (9.0 millions), 231 in Mysore (5.3 millions), 92 in Kerala (2.6 millions), 5 in Pondicherry (0.09 million) and 11 in Goa (0.06 million).

The class I cities, e.g., Calicut, Ernakulam and Trivandrum etc. of Kerala State in its littoral part have a distinct satellite growth, while those in the hill area are devoid of any such growth. Bangalore in the South Karnataka Plateau and Coimbatore in the Tamilnad Plateau show a very significant growth of satellite towns, mostly of the size below 20,000 population.

Urban Centres in Andhra Pradesh are very uneven in distribution. There are three clusters of urban centres : (a) in the Godavari Delta, particularly around Rajahmundry; (b) Vijayawada in the Krishna delta; and (c) around the city of Hyderabad. The total urban centres of the State, as recorded in 1961, number 223, support more than 6 millions of people. Out of this number, about one-third lie in the coastal districts of the State. Of the eleven class I cities in the State, as many as eight [Nellore, Guntur, Vijayawada, Visakhapatnam, Eluru, Rajahmundry, Kakinada and Bandar (Masulipatnam)] occur in the littoral part of Andhra Pradesh. But each of the class I cities in the delta and coast has a ring of towns around it. Another three class I cities (Hyderabad, Warangal and Kurnool) are scattered in the Telengana plateau. The twin-cities of Hyderabad and Secunderabad Cantt. have no towns in their neighbourhood. However, Warangal, Nellore and Bandar (Masulipatnam) have few satellite towns of small size around them. A series of towns with population below 20,000 are mostly distributed along the transport-lines. Towns with population below 5,000 are very few.

Among the four States in the Southern Zone, Madras has the maximum number of urban centres (339) supporting about 8.99 millions of population or 26.69 per cent of State's total population. It supports 9 class I cities which are dispersed in location. Among them, Madras, Vellore, Tiruchirappalli, Madurai, Coimbatore and Tirunelveli show a significant growth of satellite towns around them. The biggest arterial development of urban centres is perceptible along the Madras-Salem railway-line. Within 200 kms., length of this railway-line, there are about 40 urban centres of all sizes. Two other urban ribbons are seen in the western part of Tamilnad Upland. Within a radius of 50 kms. from Madras, there are 27 towns of which 18 are with population less than 20,000.

Sprinkled distribution of urban centres characterises Mysore State. The only part with a thick urban agglomeration is around the city of Bangalore. Within a radius of 40 kms. from Bangalore, 18 satellite towns predominate. A conspicuous linear urban concentration may be seen along the Belgaum—Bangalore railway-line which is threaded with a number of medium-sized towns (population above 20,000). There are only 6 class I cities in the State, of which Bangalore supports population more than a million. Towns with population less than 20,000 are all scattered in distribution. It is interesting to note that the Western Ghats and Malnad area are relatively under-urbanized.

A very distinctive line of urban concentration of all sizes is visible along the littoral region of Kerala, starting from Manjeshwar in the north to Poover in the extreme south of the State. Except for 3 towns, Palghat (class II), Chittur-Thathamangalam (class III) and Nemmara (class IV), the Malabar coast has hardly any urban centre beyond 60 kms. distance from the coast in the interior. The forest clad Western Ghats comprising the Nilgiri Hills, Anaimalai Hills and Cardamom Hills show a very insignificant growth of urban centres. In the State of Kerala, there are only 4 class I cities (Trivandrum, Ernakulam, Calicut and Alleppey). Besides, there are 5 towns with a population over 50,000 each (Quilon, Mattancherry, Palghat, Trichur and Kottayam) and 83 urban centres with a population below 50,000. It is interesting to note that Cannanore Cantt. with a population of 2,859 persons is the only class VI town in the State of Kerala. The development of urban centres in the littoral part is possibly due to the facilities of coastal traffic by backwaters.

In Goa district of the Union Territory of Goa, Daman and Diu there are eleven towns mostly small service centres. Panjim (class III) is the administrative capital and commercial centre of the territory.

The Union Territory of Pondicherry supports 88,997 persons in its 5 urban centres of which 4 lie in the Bay of Bengal coast (Pondicherry—40,421; Karaikal—22,252; Muthialpet—11,341; and Yanam—7,032) and one (Mahe—7,951) in the Malabar coast on the west.

Growth Character—Out of 901 cities and towns in this Zone, only 31 towns (Class I—1, class III—12, classes IV to VI—18) record a very high decennial growth-rate (75% and above) during 1951—61. They show a linear distribution-pattern along the National Highways of Kerala coast. They are Ernakulam, Shertalai, Muvattupuzha, Kayamkulam, Balaramapuram etc. The highest growth-rate is recorded by Nemom town in the immediate hinterland of Trivandrum district in Kerala State (704.99%). The other towns with a similar high growth-rate in this zone are located in Krishna and Godavari delta of Andhra Pradesh.

Some 29 cities/towns (class I—2, class II—2, class III—9, classes IV to VI—16) show growth-rate ranging between 50 and 74.99%. Out of these 11 fall in Andhra Pradesh, i.e., more than any other State of the Zone. The cities/towns worth mentioning are Visakhapatnam, Repalle, Mangalagiri, Kurnool, Madanapalle and Anantapur in Andhra Pradesh, Tiruppur and Tiruvattiyur in Madras State and Doddaballapur, Sirsi and Sagar etc. in Mysore State.

Cities/Towns falling under the range medium growth-rate (25%—49.99%) are 172 Class I—11, Class II—13, Class III—47, Classes IV to VI—101. They are mostly shared by Andhra Pradesh (65) Mysore (58) and Madras State (38). They are distributed in Godavari delta and Nellore coast of Andhra Pradesh and in Mysore State from Bangalore to Belgaum (along the National Highway); in the Southern most part of the Peninsula (from Trivandrum district of Kerala to Tirunelveli district of Madras); and in Coimbatore plateau of Madras State. About 11 Class I cities of which Bangalore is a 'Million' city show a medium growth-rate.

About half the number of towns in Southern Zone (445) show a low growth-rate of population (Below 25%). Madras has the largest number of towns (186) with a low growth-rate followed by Mysore (120) and Andhra Pradesh (110). These towns are concentrated in the Cauvery delta region, Madras—Vellore region, Tamilnad Upland region of Madras State, Krishna-Tungabhadra Basin of Mysore State, Hyderabad region and Krishna delta region of Andhra Pradesh. The 'Million' cities of Hyderabad and Madras and some class I cities such as, Mysore, Mangalore, Calicut, Alleppey, Salem, Tanjavur, Tiruchirappalli, Madurai show a low growth-rate. Porto Novo town in South Arcot district of Madras State showed the lowest growth-rate (0.36%) in this Zone.

About 154 new towns have sprung up in this zone within a span of ten years. They show both linear and nucleated distribution patterns. From Mangalore down to Trivandrum a string of new towns runs parallel to the Kerala coast. Concentrated location is visible around the industrial cities of Madras, Bangalore, Coimbatore and Madurai.

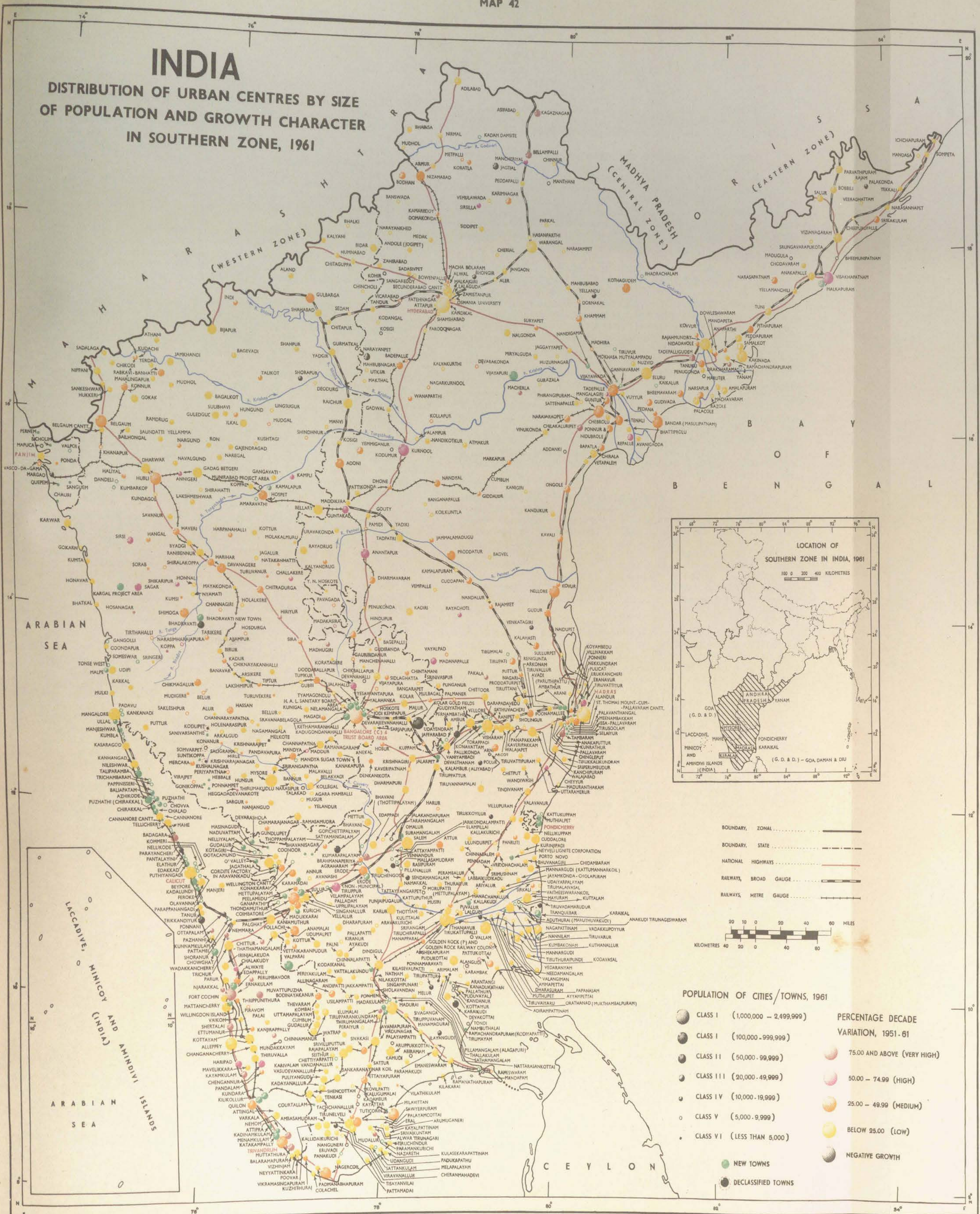
In all, 66 towns in this zone show a negative growth-rate during 1951—61. Madras State has such towns in maximum number and especially Ramanathapuram and Thanjavur districts show the largest number of towns with negative growth-rate. It is worth-noticing that some of the industrial and mining towns in Mysore State, such as, the steel town of Bhadravati and mining town of Kolar Gold Fields have undergone loss of population during the last decade.

Only four towns in this Zone, viz., Kushalnagar (VI), Kodlipet (VI) and Somvarpet (V) of Mysore State and Alangudi (V) in Madras State were declassified in 1951.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

DISTRIBUTION OF URBAN CENTRES BY SIZE
OF POPULATION AND GROWTH CHARACTER
IN SOUTHERN ZONE, 1961



GROWTH OF URBANISM, 1901—61

Purpose : This map depicts the growth of urban population during 1901—61. The break-up of the urban population living in towns of various sizes for each of the States/Union Territories for each decade is also depicted.

Method : Seven vertical bars proportionate to the total urban population for the seven decennial years during 1901—61 are drawn in each of the States and Union Territories. Each of these bars in turn is divided into four parts, differentiated by four shades of colour indicating the urban population living in class I cities (Population 100,000 and above), class II towns (Population 50,000—99,999), class III towns (Population 20,000—49,999) and class IV, V and VI towns (Population less than 20,000). On the right hand side of each diagram a vertical scale showing the urban population in absolute number is given.

Salient Features : A study of the map reveals that all the States/Union Territories except Manipur witnessed an increase in urban population during 1901—61. The growth character in different States/Union Territories, has been classified into six categories—(i) accelerated growth throughout the period; (ii) gradual or stagnant growth in the earlier decades but very rapid growth in the last two decades; (iii) some decrease in one of the earlier decennial years and steady rise in the following years; (iv) stagnant growth in the first four decades followed by a sharp rise in the last two decades; (v) stagnant growth in the first four decades followed by a decline in fifth decade and then a sharp rise in the last decade and (vi) decelerated growth in the early decades followed by sharp rise in last decade.

(i) The Union Territories of Tripura and Delhi and the States of Assam and Kerala showed a very high increase in urban population during 1901—61. Within a span of sixty years Tripura's urban population increased about fifteen fold, that of Delhi and Assam ten fold and that of Kerala five fold. It is, however, worthnoticing that Tripura and Assam are still under-urbanized in spite of recording an accelerated rate of growth during 1901—61.

(ii) Urban growth in Maharashtra, West Bengal, Madras and Andhra Pradesh has been slow in the first four decades upto 1941 but very much accelerated in the last two decades. The prevalence of famines epidemics and epidemics in the earlier decades, perhaps, was responsible for slow growth of the urban population in many of these States. The accelerated growth in industrial and commercial activities in the metropolitan cities like Calcutta, Bombay, Madras and Hyderabad has enormously boosted up their urban population in these States and they are highly urbanized States in the country. The urban population in all these States increased two to three fold and the proportion of urban population to total population also nearly doubled during 1901—61.

(iii) Many of the States in Northern India suffered heavy toll of life due to epidemics during 1901—11, so they show decline both in urban and rural population. Uttar Pradesh, Punjab, Rajasthan and Madhya Pradesh suffered from a tremendous loss of urban population during 1901—11. In the decades following 1911 there was a gradual increase in urban population but the percentage share of urban population to total population was still low. Uttar Pradesh, for example, in 1901 had 11% of its population as urban and in 1961 the proportion of urban population to total population is only 13%. Gujarat and Mysore States which also recorded some decline in urban population during 1901—11 recovered the loss at a more rapid rate in the succeeding decades. Jammu and Kashmir State showed stagnant growth till 1921, the year in which much of the population in Jammu city was decimated by plague.

(iv) Orissa State is outstanding by its retarded growth in the first four decades followed by very sharp growth in the last two decades which is evidenced by the addition of only 1.6 lakhs to its urban population during the first forty years and 7.0 lakhs during the last 20 years.

(v) The Union Territory of Manipur which recorded a gradual urban growth till 1941 showed a sharp decline in 1951. The urban population which rose sharply from 2,862 to 67,717 persons during 1951—61, but failed to reach the level of urban population recorded in 1901, i.e. 72,234. The reason for this decline lies in the decrease in size of the urban area due to change in 1961 Census definition of urban area.

(vi) Nagaland is the only State which showed in the first five decades a decelerated growth of its small urban population. But its urban population in 1951 increased almost five fold from 4,125 to 19,157 in 1961.

Andaman and Nicobar Islands are exceptional areas with no urban population earlier to 1951. The Union Territories of Dadra and Nagar Haveli, Laccadive, Minicoy and Amindivi Islands and N.E.F.A., recorded no urban population even in 1961. No data are available for Goa, Daman and Diu and Pondicherry before 1951 and 1961 respectively.

An examination of the urban population living in the towns of different categories reveals that in 1901 the small towns supported more population than the bigger towns. More than 50% of the urban population lived in small towns (with population less than 20,000) in 1901 in all the States/Union Territories, except Bihar, Jammu and Kashmir, Kerala, Madhya Pradesh, Madras, Orissa, West Bengal and Delhi. All the urban population in Assam, Himachal Pradesh, Tripura and Nagaland lived in class IV, V & VI towns in 1901. Urban population living in small towns decline sharply from 50% in 1901 to 20% in 1961 for almost all States except Orissa where the proportion increased from 42% in 1901 to 46% in 1961.

Unlike the small towns, the percentage share of population living in medium sized towns (class III) during 1901—61 remained stationary or slightly increased all over the country except in Bihar, Jammu and Kashmir, Kerala and Orissa. In Bihar the share of population living in class III towns declined from 32% in 1901 to 26% in 1961, in Jammu and Kashmir from 23% to 4%, in Kerala from 37% to 35% and in Orissa from 38% to 20%.

It is worthnoticing that the proportion of population living in class II towns remained rather stationary throughout the period in the States of Madras, Mysore, Orissa and Uttar Pradesh, but slightly increased in Andhra Pradesh and Bihar. But in the case of Punjab the proportion has decreased from 21% in 1931 to 9% in 1941 and increased in the succeeding decades. The proportion of population living in class II towns showed significant increase during the six decades in Gujarat from 5% in 1901 to about 11% in 1961; in Maharashtra from 4% in 1901 to 9.2% in 1961 and in West Bengal from 2% in 1911 to 15% in 1961. In Kerala, Madhya Pradesh and Rajasthan there was a decline in percentage of population living in class II towns while there was a corresponding rise in class I or class III towns.

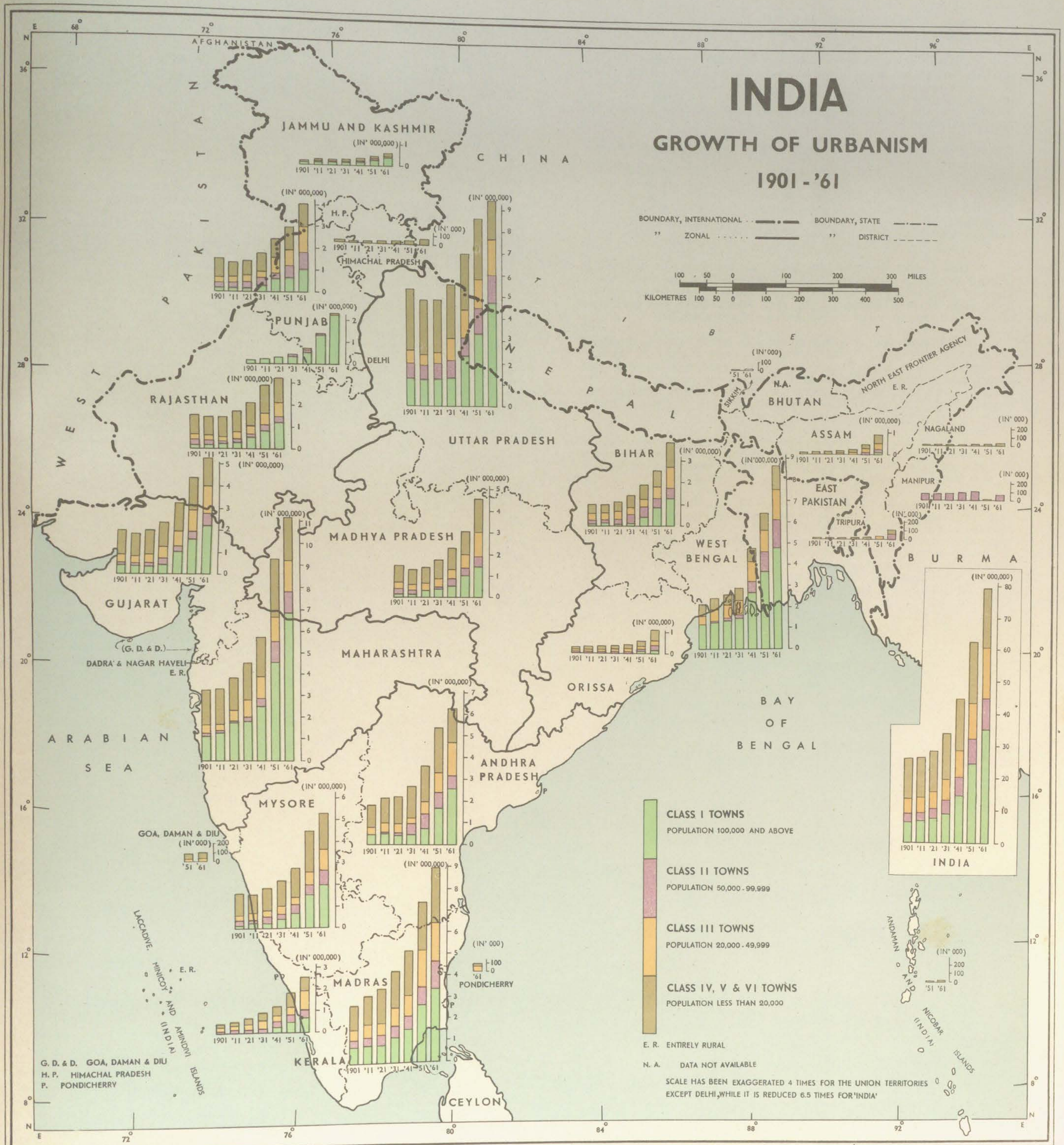
Greater Bombay, the biggest city in India showed an exorbitant increase in population from 0.8 million in 1901 to about 4.2 millions in 1961, which accounts for the rapid rise in the percentage share of population living in class I towns from 34% in 1901 to 60% in 1961 in the Maharashtra State. On the other hand, the percentage share of population living in class I cities in West Bengal showed only a slight increase from 53% in 1901 to 55% in 1961. In Madras State the growth of population of class I cities had been continuous but slow. In Andhra Pradesh, Gujarat, Bihar, Mysore, Punjab, Rajasthan and Uttar Pradesh the class I cities expanded at the expense of medium sized towns. Though Uttar Pradesh had 4.8 millions (50% of its total urban population) living in class I cities it did not have even one single city with 1 million population in 1961. In some States, such as, Kerala, Orissa and Assam class I cities came into existence only during 1931—41, 1941—51 and 1951—61 and in 1961 they supported 27%, 13% and 11% of total urban population respectively in each of these States.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

GROWTH OF URBANISM

1901 - '61



DEGREE OF URBANISM, 1961

Purpose : This map shows the extent of urban influence extended by the cities and towns of 1961 upon their surrounding areas in the country.

Method : The urban centres have been represented by circles, the radii of which represent the distances upto which the urban impulses are felt. There are six classes of towns according to the size of population. Each class shows its degree of influence according to the size of its 1961 population. The distances upto which each category of cities and towns exerts its influence, are assumed as follows :

<i>Class of Cities/Towns</i>	<i>Population Size</i>	<i>Extent of Urban Influence</i>
Class I	1,000,000 & Above	40 Kms.
Class I	500,000—999,999	32 Kms.
Class I	100,000—499,999	24 Kms.
Class II	50,000—99,999	16 Kms.
Classes III & IV	10,000—49,999	8 Kms.
Classes V & VI	Below 10,000	Dots.

Thus a city with population more than one million is assumed to influence 40 Kms. of distance in its surrounding areas. On the other hand, a town with a population below 10,000 is represented by a dot indicating its negligible sphere of urban influence. Light yellow-ochre colour is used to differentiate the rural areas which are beyond the reach of urban influence.

Salient Features : A glance at the map reveals that the degree of urbanization is very uneven in the country. The cities of Calcutta, Bombay, Madras, Delhi, Ahmedabad, Bangalore etc. show a very high degree of urbanization while the mountainous areas of northern and eastern parts of the country, the forested hills and plateaus of the north-eastern Peninsula, the desert and semi-desert tracts of Rajasthan exhibit a low degree of urbanization.

A significantly high level of urban development is noticed in the Calcutta Industrial Region. Within a radius of 48 Kms. from Calcutta, there are 78 urban centres, of which 45 are on the left bank and 33 on the right bank of the river Hooghly.

Bombay and Kalyan group of towns is another highly urbanized area which has radiated its urban impulse for about 40 Kms., particularly towards the east, the intervening rural areas are dotted with a number of small towns with population below 10,000. The urban influence of Bombay is strongly felt upto a distance of about 50 Kms. in its hinterland. The city of Poona which lies about 100 Kms. away from Bombay has extended its influence upon a group of small towns in its surroundings. The intervening rural areas between Bombay and Poona support about a dozen small towns. In the distant future, the rural

areas lying between Bombay and Poona, may probably form a distinct urban ribbon in the State of Maharashtra.

Other noticeable areas with a high level of urbanization are the Damodar Valley region in the hinterland of Calcutta, north-western part of the Great Plain, the hinterland of Madras city, the south-eastern part of Madras State, the Kerala Coast, the Gujarat Plain and clusters around the city of Hyderabad.

A conspicuously linear urban agglomeration is perceptible in the mining and industrial region of the Damodar Valley, where a number of cities and towns (one class I, 2 class II towns and nearly 29 small towns) have coalesced with each other and formed a distinct urban belt along the railway line. Another linear urban concentration is noticed in the Punjab Plain along the transport lines from Amritsar to Ambala. Two other significant urban clusters are seen around the metropolis of Delhi and the city of Agra in the Ganga-Yamuna *doab* area. The urban influence of Delhi has crossed over the river Yamuna. A few medium and small towns between Delhi and Meerut, have overlapped to form a continuous urban belt. The industrial city of Kanpur could not radiate its impulse very far from its outer fringe. In the middle Ganga Valley, a linear urban development is also noticed along the transport lines from Saharanpur to Lucknow. There are about 45 cities and towns of which 6 are class I cities, 5 class II towns and the remaining are medium and small towns.

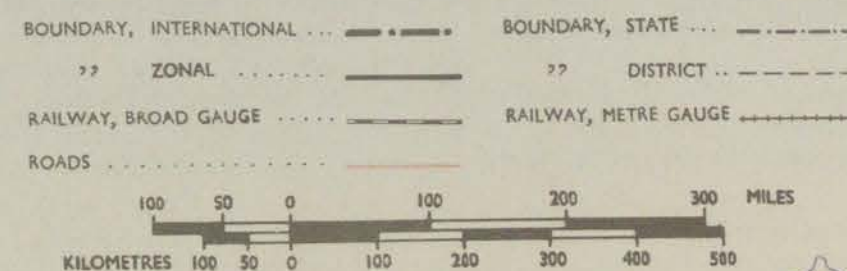
A very conspicuous ribbon-development of urban centres may be seen in the hinterland of Madras city, particularly along the Bangalore-Madras transport lines. This area supports 4 class I cities (Madras, Bangalore, Kolar Gold Fields and Vellore), 2 class II towns and a large number of medium and small towns. Each of the cities of Bangalore and Madras, supports about 20 medium and small towns in its outer fringe. A very dense urban concentration is noticed in the south-eastern part of Madras State, particularly in the Cauvery delta where a large number of medium and small towns have overlapped each other. A small urban cluster around the city of Coimbatore is noticed in the Tamilnad upland region of Madras. The littoral tract of Kerala shows a line of urban concentration where most of the medium and small towns leave hardly any rural space in between them. Ahmedabad city in the Gujarat Plain supports about 16 urban centres of medium and small sizes within a radius of 40 Kms., while Hyderabad city, lying in the heart of the Telangana Plateau seems to exert its influence over 1 class II town, 3 medium-sized (10,000—49,999) and 9 small towns (Below 10,000).

The highly mountainous Jammu and Kashmir State except the Vale of Kashmir; the arid region of Rajasthan; the hill areas of Uttar Pradesh; the State of Assam except the Brahmaputra Valley; Nagaland and Manipur show a very low degree of urbanization. The towns are few in number and small in size and they are sporadic in distribution, so their sphere of influence over their surrounding areas is very limited. There were no towns in North-East Frontier Agency, Dadra & Nagar Haveli and Laccadive, Minicoy and Amindivi Islands.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

DEGREE OF URBANISM 1961



URBAN CONCENTRATION, 1941

Purpose : This map shows the degree of urban concentration in the country as obtained in 1941.

Method : The districtwise percentage values of urban population to total population are plotted in the centre of each district and isopleths are drawn through these points at suitable intervals as shown in the index of the map. The intervening spaces between two isopleths are shaded from high to low with different colours according to the gradation of values. Urban centres have been plotted on the map by violet spheres proportionate to the size of their population as given in the legend to the map.

Salient Features : In 1941, there were 1,828 cities and towns of all sizes supporting 44.15 million persons or 13.86% of India's population (318.66 millions). A cursory look at the map reveals that the distribution of cities and towns is very uneven in the country. The urban concentration is dense in the Bhagirathi delta in West Bengal; the hinterland of Bombay; the north-western part of the Great Plain embracing Uttar Pradesh and Punjab; the Gujarat State; the south eastern part of the Peninsular Plateau shared by Madras and a part of Mysore. On the contrary, a very scattered urban concentration is visible in Rajasthan Desert, the forested hills and plateaus in the north-eastern part of the Peninsula, in the inaccessible Eastern and Western Himalayan areas, in the eastern border hills and plateaus and Assam Valley.

The areas showing a very dense urban concentration (> 50%) stand out as islands of various sizes and shapes around each of the metropolitan cities—Calcutta, Madras, Bombay, Delhi, Ahmedabad etc. as the nuclei. Clusters of satellite towns have grown up around these metropolitan areas.

The regions ranking next in degree of urban concentration (25% to 50%) are spread out all over the country. They are also located in economically developed regions around the metropolises and big cities, such as, Lucknow, Kanpur, Agra, Amritsar and Gwalior in the Northern Plain; Bikaner, Jodhpur, Ajmer and Churu in Rajasthan Plain; Ahmedabad, Rajkot and Bhavnagar in Gujarat; Indore in Madhya Pradesh; Jalgaon, Nagpur, Poona and Sholapur in Maharashtra; Hubli, Dharwar and Bangalore in Mysore; Coimbatore and Palayamcottai in Madras and Calcutta in West Bengal. All these cities have industrial, commercial and administrative significance.

The areas showing urban concentration of medium range (15% to 25%) can be identified in the form of elongated belts of various sizes which more or less follow the important railway links connecting important industrial or

commercial or administrative cities of the country. These belts mainly correspond to :

(i) The Punjab Plains, the Ganga-Yamuna *doab* and the Rohilkhand Division of western Uttar Pradesh;

(ii) The cotton, millet and oilseed growing areas of Gujarat, Maharashtra and Madhya Pradesh along the Bombay-Nagpur railway line;

(iii) Bombay-Poona region along the railway line famous for its textile, engineering and chemical industries;

(iv) Tungabhadra-Krishna-Bhima basin in Mysore and Maharashtra Plateau region famous for cotton, coffee and iron and steel industry;

(v) Madras State and parts of Kerala State along the Madras-Bangalore, Madras-Coimbatore and Madras-Trivandrum railway lines;

(vi) The hinterland of Calcutta Industrial Region in West Bengal; and

(vii) The central part of Rajasthan with its main railway lines connecting the cities of Ajmer, Jaipur, Churu etc.

All the above regions show a linear concentration of towns along the railways which are either railway-junctions or trade or industrial centres.

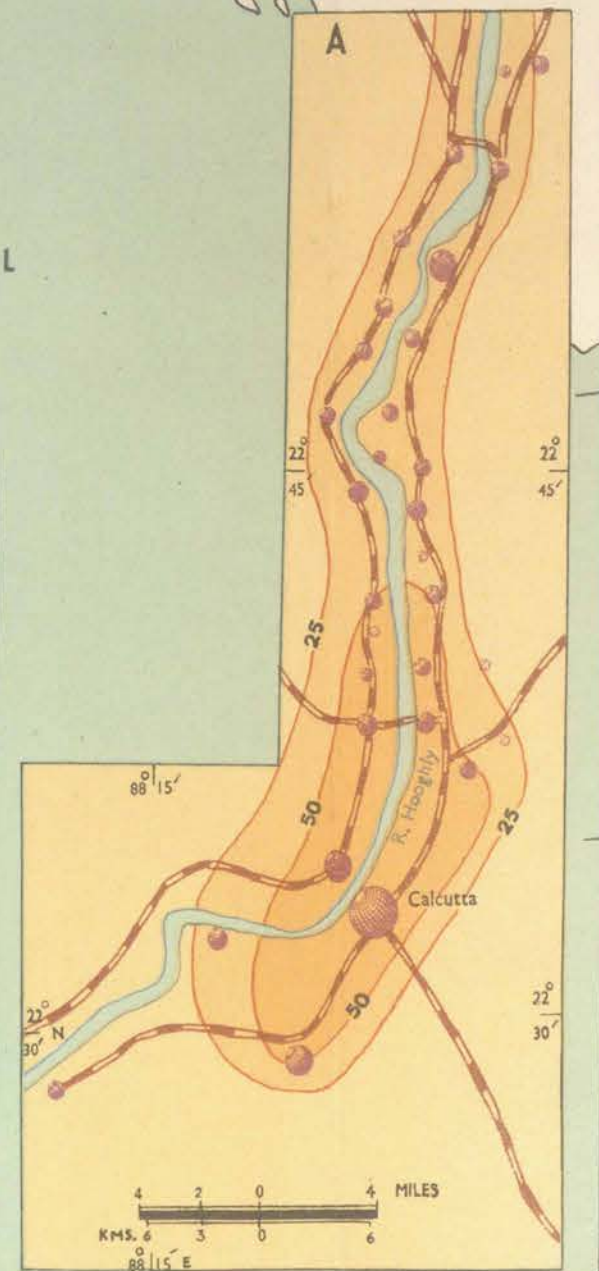
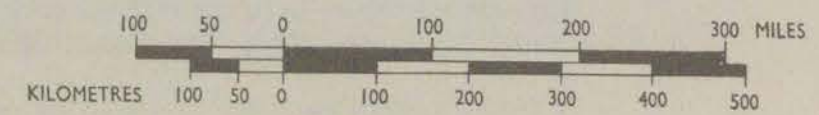
A relatively thinner concentration of urban population (5% to 15%) can be seen in the Middle Ganga Plain; in south-western part of Rajasthan; in Madhya Pradesh; in southern Punjab; in the Central Peninsular Plateau, especially the Upper Godavari Basin; Rayalaseema Plateau of Andhra Pradesh; Western and Eastern Ghats areas and southern Bihar. All these are under-urbanized areas with a scattered distribution of small towns (population below 20,000).

A very low urban concentration (Below 5%) is visible in the areas which are still inaccessible to railways and roads, i.e., the north-eastern part of the Peninsular Plateau and the forested hills embracing eastern Madhya Pradesh, Orissa and southern Bihar; Assam Plateau; and the Sub-Himalayan zone from Kashmir Valley in the north-west to the Brahmaputra Valley in the east. Only the railway terminals, the towns of tourists' interest, the hill-stations and strategic towns are found here. In the plateau area some mining towns are located amidst tribal villages.

The entirely rural areas, viz., the north-eastern part of the Peninsular Plateau; Dangs district of Gujarat; Mizo Hills district of Assam and the Union Territory of North-East Frontier Agency etc., are under the same range.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

BOUNDARY, INTERNATIONAL	BOUNDARY, STATE
BOUNDARY, ZONAL	BOUNDARY, DISTRICT
RAILWAY, BROAD GAUGE	RAILWAY, METRE GAUGE



URBAN CONCENTRATION, 1961

Purpose : This map shows the pattern of urban concentration in India as in 1961.

Method : For this map cities and towns are classified into nine categories as shown in the legend. They are shown by violet spheres, proportionate to the size of their population. The districtwise percentage figures of urban population to the total population are plotted in the centre of each district and then isopleth lines are drawn at suitable intervals. The intervening space between two isopleths is shaded by colours according to gradation of values as per legend.

Salient Features : According to 1961 Census, 2,700 cities and towns of all sizes support about 78.94 million people or 17.9% of India's total population. A very high concentration of urban centres is visible around the metropolitan cities; in the north-western part of the Great Plain; in the extreme southern part of the Peninsula, while the forested hills and plateaus in north-eastern part of the Peninsula, inaccessible hill areas in the extreme east and the desert tracts in the extreme west show a low concentration of urban centres.

The zones of very high agglomeration of urban population (>50%) embrace the districts supporting metropolitan cities and their satellite towns.

Among the seven metropolitan cities, the city of Calcutta supports the largest number of urban centres in its surrounding areas. The surrounding areas of the metropolitan city of Calcutta, i.e., about 48 cities/towns, supporting 6.12 million of urban population form continuous urban zone on either side of river Hooghly. This zone shows largest agglomeration of urban centres in the country. The second big urban cluster is around the metropolis of Greater Bombay. About 14 cities and towns are huddled together around this city. The city of Delhi ranks third in the number of urban centres concentrated in its conurbation areas. The other metropolises which follow successively in degree of urban concentration are Madras, Ahmedabad, Bangalore and Hyderabad.

The next category of high agglomeration of cities and towns (25–50%) may be seen in the Punjab plains and the Ganga-Yamuna *doab* area in Uttar Pradesh; a few patches along the Bombay-Nagpur Railway line; Gujarat State, Poona-Bombay region; the south-western part of Madras State; and small pockets lying between the Krishna-Tungabhadra rivers in Mysore. It may be pointed out that throughout the wheat and cotton growing areas of Amritsar, Jullundur, Ambala and Karnal districts in the North Punjab plain and some districts lying east of Yamuna river in Uttar Pradesh show a phenomenal urban concentration. A number of market towns and service centres have sprung up in recent years. Such urban concentrations are mainly

associated with the increasing degree of cash crop farming and consequent expansion of commercial activities, processing industries related to cotton and oilseeds. Another high concentration of urban population is seen in a compact area of triangular-shape, with its apex pointing towards Ootacamund and its base along the Bay of Bengal Coast—from Rameshwaram to Kanyakumari. This area embraces 61 urban centres, most of which are class III and class VI towns. The Kerala coast in the south-west also shows more than 25% of its population as urban. A few scattered pockets (25–50%) of urban population to total population are visible all over the country. They are in the hinterland of Madras city; Hyderabad in Andhra Pradesh; Bhopal and Jabalpur in Madhya Pradesh and in Rajasthan. In most of these belts urban agglomerations have been high, possibly due to the expansion of industrial and commercial activities in the country.

The areas showing a medium concentration of urban population (15–25%) are the Bhima-Krishna-Tungabhadra basins; parts of Gujarat State; southern Punjab Plain; the lower Hooghly basin and Damodar Valley; littoral areas in the east and west and in elongated belt in Madhya Pradesh and Rajasthan. A trident-shaped area of high agglomeration of urban centres is visible in the hinterland of Bombay, along one of its arms stretching upto Ahmedabad; the other across the cotton-growing region of Maharashtra and the third stretching upto Mysore plateau.

A low concentration of urban population (5–15%) may be seen in the Middle Ganga basin; the Brahmaputra Valley in Assam; the northern Orissa and southern Bihar; the western parts of Rajasthan and Madhya Pradesh; the Upper Godavari basin; the Rayalaseema and Telangana Plateaus of Andhra Pradesh and the Western Ghat areas.

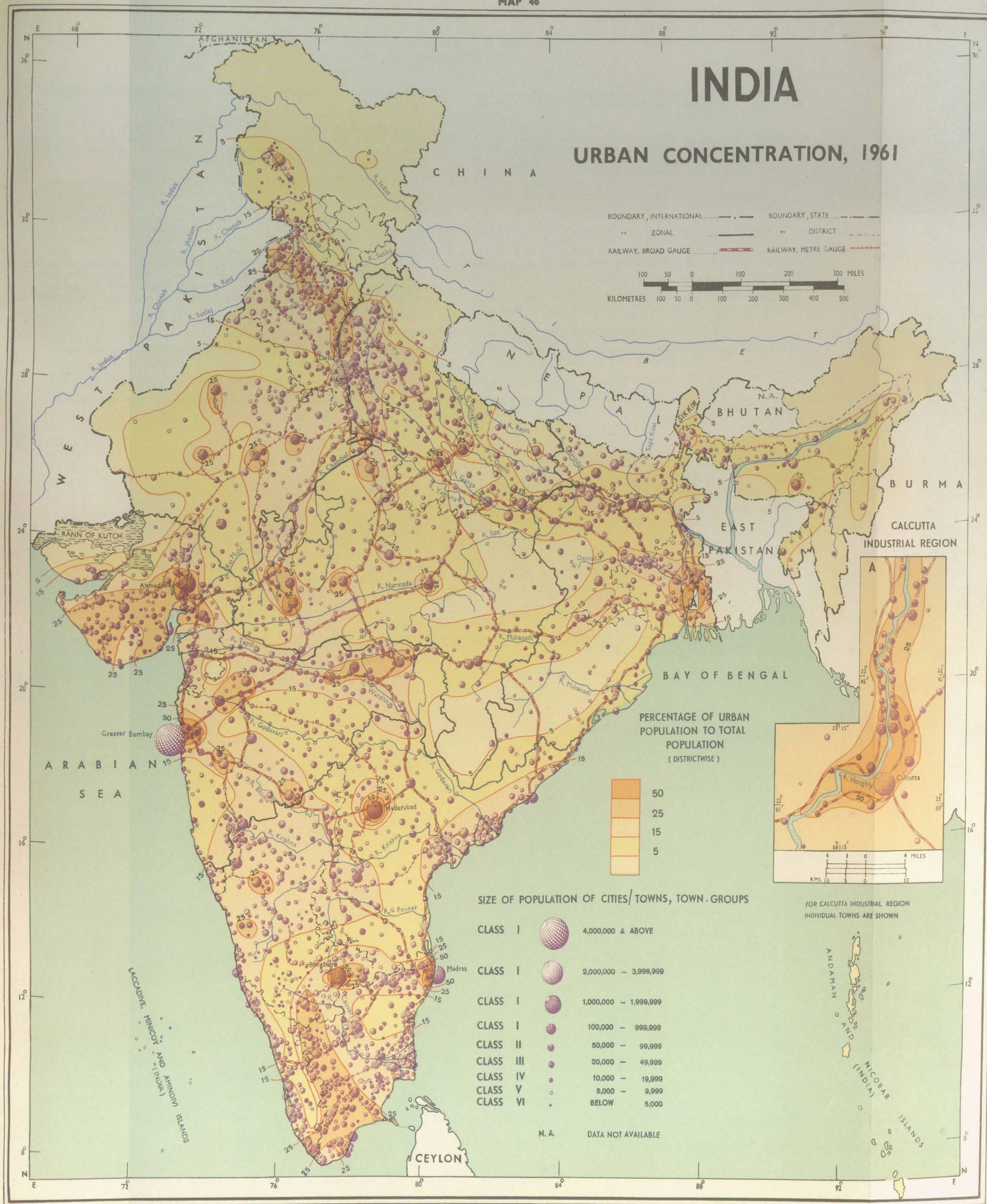
A very low concentration of urban centres is noticed in the north-eastern part of the Peninsular Plateau, embracing the forested hills and plateaus of Madhya Pradesh, Orissa and Bihar; desert tract in Rajasthan and the mountainous tract in the northern and eastern parts of the country. In these areas less than 5% of population live in towns which are mostly small towns (population <20,000). Inadequate transport facilities, rugged terrain, predominance of forests are some of the reasons for the restricted growth of urban settlements.

It is worth mentioning that out of nine districts, six lie in the inaccessible mountainous regions of the Himalayas which are completely devoid of urban population. The district of Dangs in Gujarat and the Union Territories of Dadra and Nagar Haveli and Laccadive, Minicoy and Amindivi Islands in the Arabian sea also fall under this category.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

URBAN CONCENTRATION, 1961



CHRONOLOGICAL DISTRIBUTION OF CITIES WITH POPULATION
100,000 AND ABOVE, 1901—61

Purpose : The map shows the distribution of cities with population 100,000 and above with reference to the decades when they gained urban status during the period 1901—61.

Method : The four leading metropolitan cities—Greater Bombay, Calcutta, Delhi and Madras are shown by circles according to the size of their population. The other three ‘Million cities’—Hyderabad, Bangalore and Ahmedabad are shown by one representative circle of a different size. The remaining class I cities are shown by circles of uniform radii according to the size of population at mid-point between 100,000 and 999,999. All these circles are shaded by different colours according to the decade of their origin as given in the legend. Cities which have lost urban status in any of the census years and regained urban status in the subsequent years are shown by dividing the circle into three sections. The first part shaded according to the year of origin, the second part is kept blank indicating the break in existence as urban centre and the third part is shaded according to the year of gaining urban status.

Salient Features : This map reveals that out of 107 class I cities in 1961, 101 cities including the 7 ‘Million cities’, had their origin in the decades

1901 or before. The remaining class I cities gained urban status in subsequent decades.

Out of the seven metropolitan cities of 1961, Greater Bombay and Calcutta Municipal Corporation attained ‘Million’ status as early as during 1901—11, while Delhi, Madras and Hyderabad gained this status only during 1941—51 and Bangalore and Ahmedabad during 1951—61.

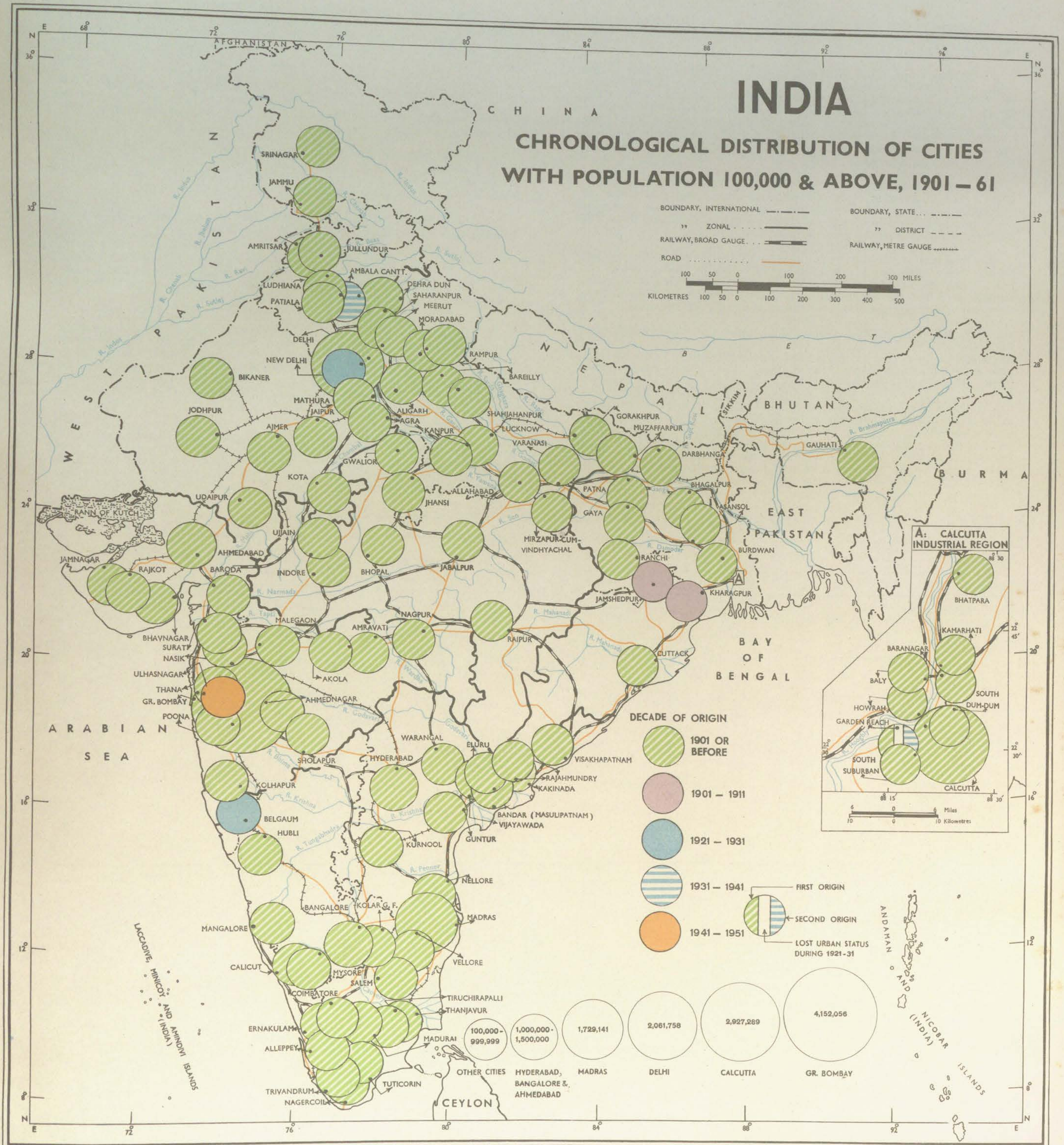
The opening of the steel plant—(Tata Iron & Steel Company) and the railway-workshop stimulated the growth of new cities—Jamshedpur and Kharagpur during 1901—11. New Delhi and Belgaum which were parts of Delhi city and Belgaum town-group respectively in earlier decades achieved independent urban status in the decade 1921—31. Similarly, Ambala Cantt. in Punjab and Ulhasnagar in Maharashtra acquired independent urban status during 1931—41 and 1941—51 respectively. Garden Reach city in West Bengal supporting a population of 28,211 in 1901 existed as a separate urban centre till 1921. In 1931 the same urban centre with its population of 55,862 was merged with Calcutta Municipal Corporation but in 1941 it regained its separate entity and continued as such and in 1961 recorded a population of more than 0·13 million.

Class I Cities according to 1961 Census (Population 100,000 and Above) with year of origin

Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total Cities as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	101	2	...	1	2	1	...	107
	STATES								
1	Andhra Pradesh	11	...	...	...	...	...	...	11
2	Assam	1	...	...	...	...	...	...	1
3	Bihar	6	1	...	...	...	...	...	7
4	Gujarat	6	...	...	...	...	...	...	6
5	Jammu and Kashmir	2	...	...	...	...	...	...	2
6	Kerala	4	...	...	...	...	...	...	4
7	Madhya Pradesh	6	...	...	...	...	...	...	6
8	Madras	9	...	...	...	...	...	...	9
9	Maharashtra	11	...	...	...	...	...	...	12
10	Mysore	5	...	...	...	...	...	...	6
11	Orissa	1	...	...	1	...	...	...	1
12	Punjab	4	...	...	...	1	...	...	5
13	Rajasthan	6	...	...	...	...	...	...	6
14	Uttar Pradesh	17	...	...	...	...	...	...	17
15	West Bengal	11	1	...	(-1)*	1	...	...	12*
	UNION TERRITORY								
1	Delhi	1	...	...	1	...	...	...	2

*Garden Reach Municipality with a population of 55,872 lost its independent urban status as it formed a part of Calcutta Municipal Corporation in 1931 and regained in the 1941 Census.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION 50,000—99,999, 1901—61

Purpose : This map shows the distribution of class II towns with population 50,000—99,999 according to the decades of their origin during the period 1901—61.

Method : All Class II towns (population 50,000—99,999) of the country are shown by circles of uniform radii. They are then shaded in different colours, according to the decades of their gaining urban status. The Urban Centres which originated either in 1901 or before have been shown by the same colour. All the important rivers and railways connecting these Urban Centres have been inserted in this map. An inset map of Calcutta Industrial Region on a magnified scale, has been drawn to show the concentration and the origin of Class II towns.

Salient Features : According to 1961 Census there are altogether 139 Class II towns (population 50,000—99,999), supporting nearly 9.53 million of population. Within a span of six decades (1901—61), the number of Class II towns increased from 44 to 139 and their population increased from 2.95 million to 9.53 million with a break in 1911.

A glance at the map reveals that the Class II towns of the country gained urban status in overwhelming number (120) in 1901 or before and only 19 such towns originated after 1901. The Class II towns which originated in 1901 or before are widespread in distribution, even though they show a heavy concentration in the North Western plain and the extreme south.

In the Peninsular plateau, four distinct agglomerations of Class II towns are visible: (i) in Tamilnad area; (ii) in Karnataka plateau; (iii) in the Maharashtra plateau; and (iv) in the Coastal plain of Gujarat. In the Northern plain such towns are concentrated in the Upper Ganga plain, Trans-Yamuna plain and the Hooghly region.

Out of the total of 19 Class II towns in Madras, 18 towns originated either in 1901 or before. Similarly, 16 out of 18 towns in Uttar Pradesh, 15 out of 19 towns in West Bengal, 12 out of 15 towns in Maharashtra and 10 out of 12 towns in Punjab came into existence in 1901 or before. It may be pointed out that Kirkee Cantonment in Maharashtra which was having an independent urban status even in 1901 was a part of Poona Municipal Corporation in 1911—21, but regained its urban status during 1921—31 and rose to Class II town during 1951—61.

Though the year 1911 witnessed some decrease in urban population living in Class II towns (2.47 million) but two new urban centres—Gondia in Maharashtra and Halisahar in West Bengal came into existence during the decade 1901—11. These two urban centres were upgraded to Class II towns during 1951—61.

Two more towns Kanchrapara in West Bengal and Dhanbad in Bihar which originated during 1911—21 were also upgraded as Class II towns in 1941—51 and 1951—61 respectively. Both the towns grew in size mainly in the wake of mining and industrial activities.

During 1921—31, Burnpur and Siliguri in West Bengal, Kanpur Cantt. and Meerut Cantt. in Uttar Pradesh, Ganganagar in Rajasthan, Aurangabad and Poona Cantt. in Maharashtra, and Secundrabad Cantt. in Andhra Pradesh came into existence as urban centres.

The town of Kothagudem in Andhra Pradesh originated during 1931—41 in the wake of coal mining industry.

Yamunanagar in Punjab came into existence during 1941—51. Growth of this town owes its origin to the influx of displaced persons from West Pakistan. Within ten years, this town witnessed more than two-fold increase (229.64%) of its population.

Consequent on the industrial development programme of the country, Rourkela (90,287) in Orissa and Bhilainagar (86,116) in Madhya Pradesh came up as 'steel towns' during the last decade. Chandigarh (89,321) sprang up as the new capital of Punjab State after the historic partition of India. The construction of the Nagarjuna Sagar Dam has given an impetus to the growth of Vijayapuri town (population 55,300), to the north of river Krishna during the decade 1951—61.

The urban population living in Class II towns in the country showed a significant growth since 1901, perhaps, due to the migration of rural population to urban areas in search of employment. Within sixty years a large number of Class III and Class IV towns were upgraded to Class II towns and some new Class II towns sprang up as well.

Class II towns according to 1961 Census (Population 50,000—99,999) with year of origin

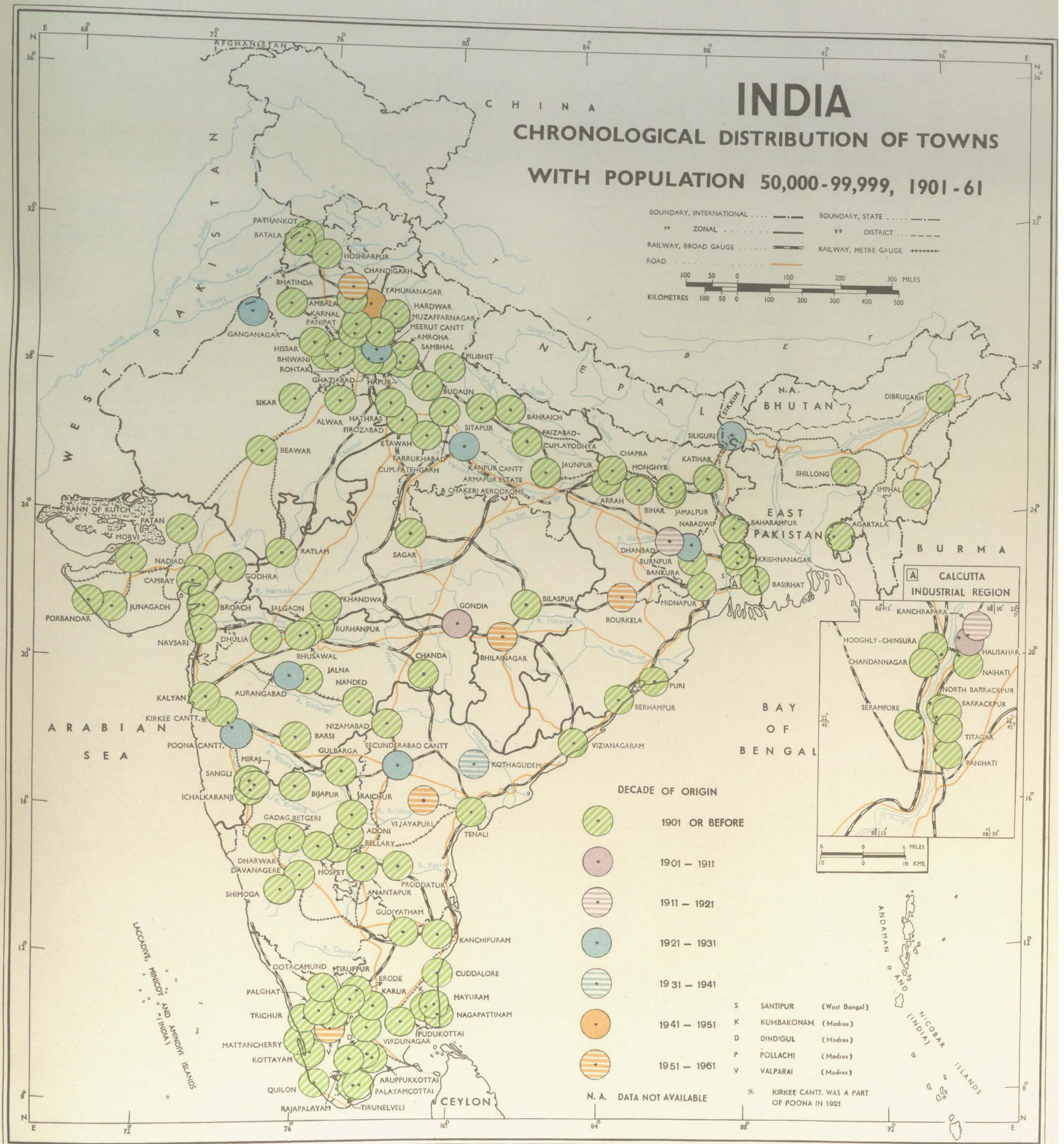
Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total towns as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	120	2	2	8	1	1	5	139
	STATES								
1	Andhra Pradesh	6	...	...	1	1	...	1	9
2	Assam	2	...	...	...	...	...	...	2
3	Bihar	6	...	1	...	...	...	...	7
4	Gujarat	9	...	...	...	...	...	...	9
5	Jammu and Kashmir	...	...	...	...	...	...	...	...
6	Kerala	5	...	...	...	...	...	...	5
7	Madhya Pradesh	5	...	...	...	...	...	...	6
8	Madras	18	...	...	...	...	...	1	19
9	Maharashtra	12	1	...	2	...	...	1	15
10	Mysore	9	...	...	...	...	...	...	9
11	Orissa	2	...	...	...	...	...	...	3
12	Punjab	10	...	...	...	...	...	1	12
13	Rajasthan	3	...	...	1	...	1	...	4
14	Uttar Pradesh	16	...	...	2	...	...	...	18
15	West Bengal	15	1	1	2	...	...	...	19
	UNION TERRITORIES								
1	Manipur	1	...	...	...	...	...	...	1
2	Tripura	1	...	...	...	...	...	...	1

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

CHRONOLOGICAL DISTRIBUTION OF TOWNS

WITH POPULATION 50,000-99,999, 1901-61



CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION 20,000—49,999, 1901—61

Purpose : The map shows the chronological distribution of Class III towns with population 20,000—49,999 during 1901—61.

Method : All Class III towns (population 20,000—49,999) of the country are shown by circles of uniform radii. They are then shaded in different colours, according to the decades of their gaining urban status. Towns which lost and regained urban status in some decades are shown by three segments in the circle—the left hand segment indicates the decade of its first origin, the middle one shows the period when it lost its urban status and the third one suggests the decade when it regained its urban status. Some important rivers and railways connecting the urban centres have been inserted. The Calcutta Industrial Region is drawn on a magnified scale and shown as an inset map.

Salient Features : According to 1961 Census, there are altogether 518 Class III towns (population 20,000—49,999), supporting nearly 15.75 million of population. The most striking feature is that the Class III towns in overwhelming number (385) came into existence in 1901 or before. Another important feature is that these towns showed a widespread distribution all over the country except in the mountainous areas in the north, forested areas of the Peninsular plateau and the desert part of Rajasthan.

The Class III towns originating in 1901 or before are grouped together in Punjab Plain, Ganga Valley, Gujarat State, north-eastern part of Rajasthan and in the Tamilnad Plain. Besides, linear concentration is noticed along the littoral parts as well as along the main transport lines of the country. Out of 385 towns, the largest number lie in Uttar Pradesh (49). These towns are more frequent in the Peninsular part than in the northern plain. Nevertheless, Uttar Pradesh supports the largest number of Class III towns in the country followed by 40 each in Madras, Maharashtra, Gujarat and Andhra Pradesh and 29 in Mysore and 28 in Punjab.

A period of slackened growth of Class III towns was noticed during the decade 1901—11, when only 15 towns originated in the country. Out of these 15 towns, 3 each sprang up in the States of Kerala, Andhra Pradesh, Madras

and Madhya Pradesh. The remaining three towns are distributed one each in Maharashtra, Punjab and Jammu and Kashmir.

The decade 1911—21 witnessed a slight increase in Class III towns (23). Some of them originated as administrative centres, e.g., Jeypore in Orissa, some as market centres, e.g., Bhadohi in Uttar Pradesh and some as tea plantation estates, e.g., Tinsukia in Assam.

Again, there was a period of stagnation of growth of Class III towns during 1921—31. Only 18 towns came into existence during this period, of which 5 lie in Madras; 4 each in Uttar Pradesh and West Bengal and 1 each in Andhra Pradesh, Bihar, Kerala, Madhya Pradesh and Maharashtra.

The growth of Class III towns was, however, accelerated to some extent in the subsequent decades. The number of towns of this size increased from 18 in 1921—31 to 20 in 1931—41. Out of these 20 towns in the country, 5 each lie in Bihar and Madras and the remaining towns are sporadic in distribution. It may be mentioned that Delhi Cantt. had its origin during this period.

The number of towns increased further during 1941—51. In all 28 Class III towns were newly added during 1941—51. West Bengal (6) shared the maximum number of such towns followed by Bihar (4), 3 each in Gujarat, Maharashtra and Punjab, 2 each in Kerala and Orissa and 1 each in Andhra Pradesh, Madhya Pradesh, Madras, Mysore and Uttar Pradesh.

In all 29 new towns came up in 1961 of which 19 were in the Southern Peninsula and 10 in the Northern Plain. Many of these towns exhibit a linear concentration along the coasts and others find their sites near major industrial towns, such as, Calcutta, Coimbatore, Asansol, etc. There are 8 Class III towns that originated along the littoral parts of Kerala and Madras. No class III town was originated in any of the six States—Gujarat, Rajasthan, Maharashtra, Orissa, Uttar Pradesh and Jammu and Kashmir in 1961.

Class III towns according to 1961 Census (Population 20,000—49,999) with year of origin

Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total towns as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	385	15	23	18	20	8	29	518
	STATES								
1	Andhra Pradesh	40	3	3	1	2	1	1	51
2	Assam	7	...	2	...	...	...	1	10
3	Bihar	20	...	2	1	5	4	1	33
4	Gujarat	40	...	...	...	...	3	...	43
5	Jammu and Kashmir	...	1	...	...	...	...	...	1
6	Kerala	10	3	6	1	1	2	8	31
7	Madhya Pradesh	27	3	...	1	1	1	2	35
8	Madras	40	3	5	5	5	1	2	61
9	Maharashtra	40	1	...	1	2	3	...	47
10	Mysore	29	...	...	...	...	1	4	34
11	Orissa	5	...	1	...	...	2	...	8
12	Punjab	28	1	...	...	1	3	2	35
13	Rajasthan	23	...	...	...	...	...	...	23
14	Uttar Pradesh	49	...	1	4	1	1	...	56
15	West Bengal	26	...	3	4	1	6	6	46
	UNION TERRITORIES								
1	Delhi	...	...	...	...	1	...	...	1
2	Goa, Daman and Diu	1*	...	...	...	...	...	...	1
3	Pondicherry	...	...	...	...	...	...	2	2

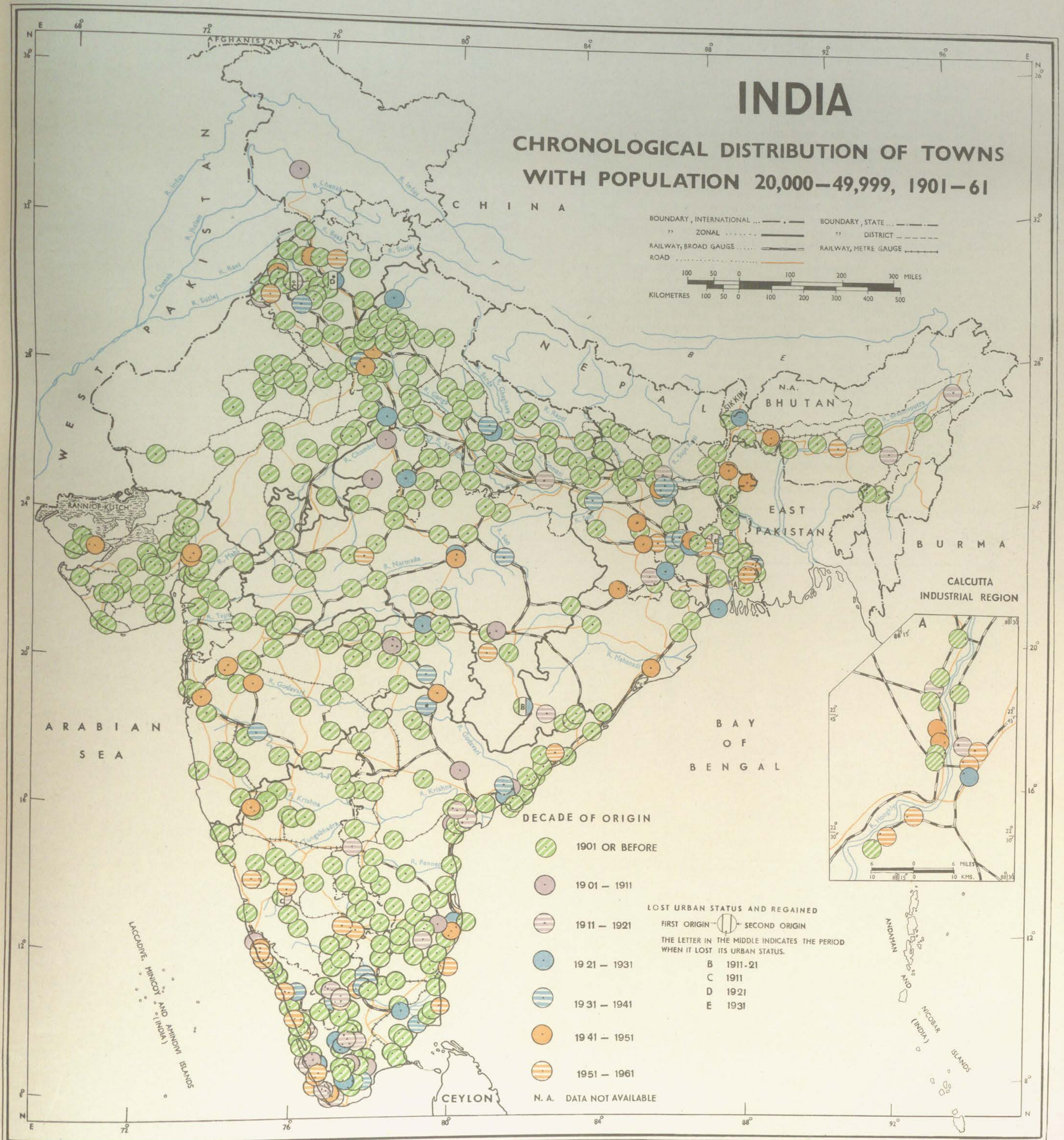
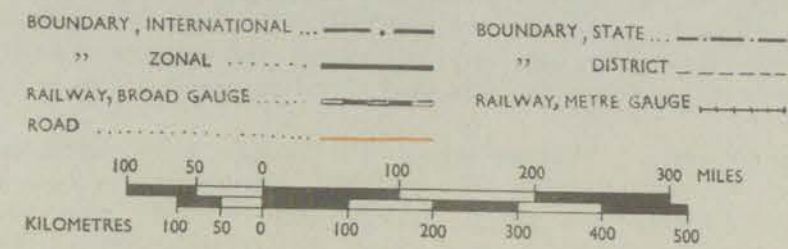
*Panjim was a town in 1900 but its population figures are not ascertainable before 1950.

Note : One town of West Bengal originating during the decade 1901 or before has been shown in orange colour instead of green.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION 20,000-49,999, 1901-61



CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION 10,000—19,999, 1901—61

Purpose : The map depicts the chronological distribution of Class IV towns with population size 10,000—19,999 during the period 1901—61. The map also indicates the location of these towns with their decades of origin.

Method : All the class IV towns (10,000—19,999) of the country are shown by circles of uniform radius. They are then shaded in different colours, according to the decades of their gaining urban status. In the cases of towns which gained urban status in one of the early Censuses but subsequently lost it for one or more decades and then regained it, indications to denote these are given in the centre of the circles. Two vertical parallel lines are drawn in the middle of the circle signifying the break and the period during which a town lost its urban status is indicated by a capital letter in between the parallel lines as explained in the legend. The decade in which a town gained urban status is shown by the relevant colour as given in the legend on the left hand side of the parallel lines and that for regaining urban status is shown by respective colours on the right hand side. Some important rivers and railway lines, connecting the urban centres, have been inserted in the map. An inset map of the Calcutta Industrial Region on a bigger scale is also given on similar lines.

Salient Features : According to 1961 Census, there are altogether 820 class IV towns (population 10,000—19,999), supporting more than 11.30 millions of population. A glance at the map reveals that the class IV towns in the country gained urban status in overwhelming number (454) either in 1901 or before. The towns which sprang up either in 1901 or before are widespread in the western part, stretching from North-Western Plain down to Karnataka Plateau. The densest agglomeration of Class IV towns which originated in 1901 or before may be seen in western part of Uttar Pradesh, Punjab Plain, Gujarat Plain, southern part of Maharashtra Plateau and Karnataka Plateau. Urban centres of recent origin (1961) may be seen in the Eastern part, such as, the Calcutta—Asansol Industrial Region, *duars* tea-growing estates of West Bengal, northernmost part of Orissa.

The censal period from 1911 to 1931 did not show much progress in respect of the origin of class IV towns. Only 136 class IV towns originated during the decades, a majority of them are located in State of Madras. Others are sporadically located in different parts of the country.

Growth of Class IV towns was accelerated in the decades following 1941. They are concentrated mostly in southernmost part of the country—Andhra Pradesh and Madras. In all, 56 class IV towns originated during 1931—41 and 71 during 1941—51. The decade 1951—61 witnessed the maximum rise of class IV towns 103 in number.

Growth of class IV towns is rather rapid during 1941—51. The number of towns increased from 56 in 1941 to 71 in 1951 in the wake of shifting of rural population to the towns of this size in search of employment. Most of these towns find sites either near the metropolises or at the transport junction or in the agro-industrial belt.

More than 100 clusters of rural areas gained urban status during the decade 1951—61. Most of these urban centres lie in the eastern part of the country. About eight class IV towns sprang up in the Calcutta Industrial Region and seven in the Damodar Valley area (Jorapokhar, Loyabad, Bhowrah, Gomoh, Katras-cum-Salanpur, Kumardhubi in the Dhanbad district of Bihar and Jamuria in the Burdwan district in West Bengal). Other concentrations of class IV towns, having their origin during 1951—61, are noticed in the littoral part of Kerala and western part of Tamilnad Upland. It may be pointed out that in some of the earlier under urbanized States—Assam, Orissa, Madhya Pradesh—an appreciable number of rural clusters achieved urban status during the decade 1951—61.

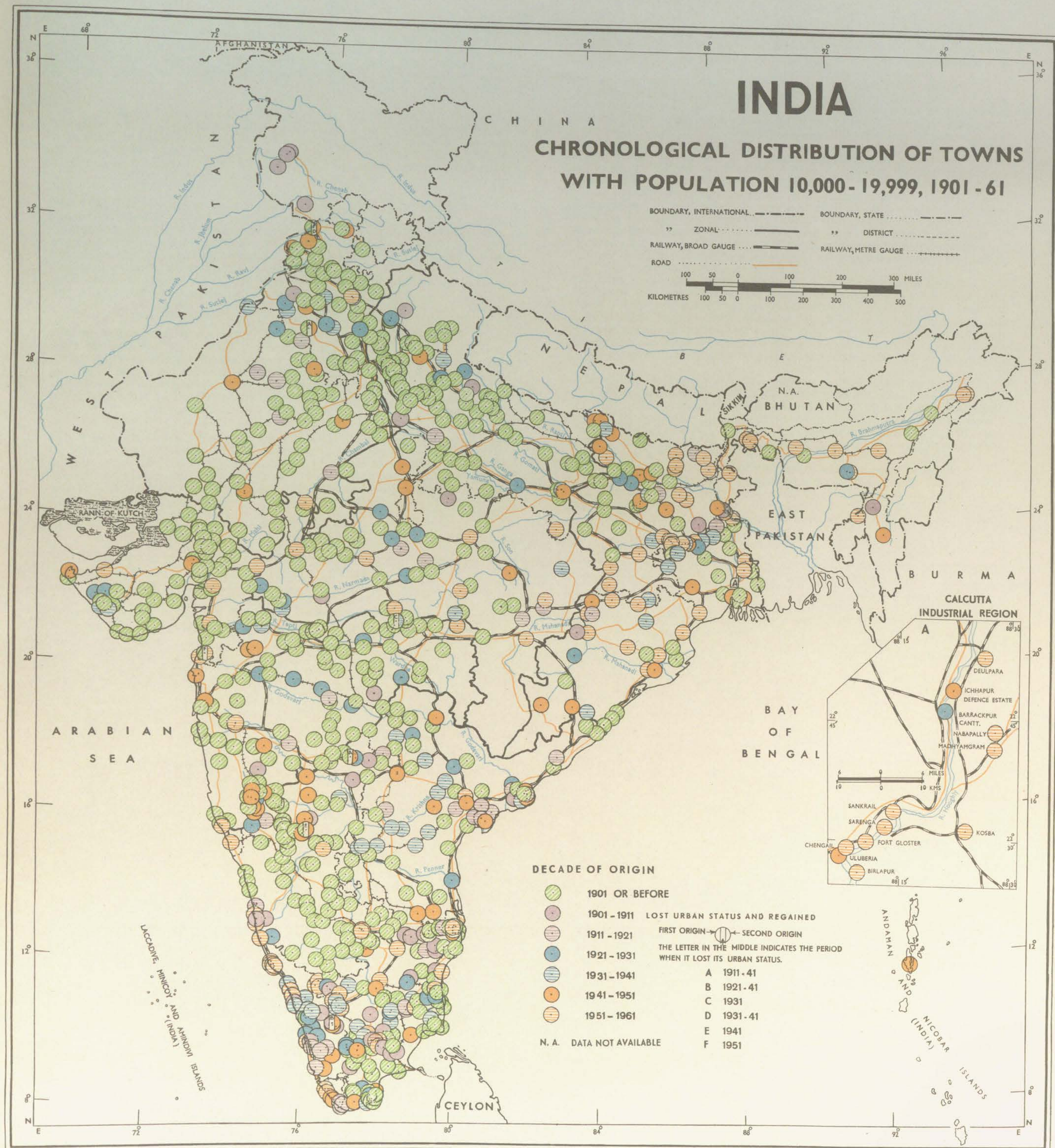
There are altogether 7 class IV towns which lost and regained urban status during 1901—61. Out of these towns, Pardi in Gujarat lost its urban status during 1941—51 and regained during 1951—61. Sendurjana in the district of Amravati in Maharashtra originated in 1901, lost its urban status during 1921—31 and regained during 1931—41. Gajendragad in Dharwar district lost its urban status during 1931—41 and regained its urban status during 1941—51 and Humnabad in Bidar district of Mysore remained declassified for three decades—1911 to 1941 and regained status during 1941—51. In Punjab, Fatehabad was dropped from the urban list during the decades 1911—41 and Sujampur during 1931—41 and both of them were revived during 1941—51. Lastly, Anamalai in Madras which sprang up in 1901—11, was declassified during 1921—41 and regained urban status in the decade 1941—51.

Class IV towns according to 1961 Census (Population 10,000—19,999) with year of origin

Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total towns as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	454	44	43	49	56	71	103	820
	STATES								
1	Andhra Pradesh	34	3	10	4	12	9	1	73
2	Assam	3	1	...	1	...	1	6	12
3	Bihar	17	1	2	2	4	9	17	52
4	Gujarat	43	...	...	2	2	2	5	54
5	Jammu and Kashmir	...	4	...	...	...	...	...	4
6	Kerala	1	3	4	4	6	4	11	33
7	Madhya Pradesh	33	2	3	6	3	2	8	57
8	Madras	46	18	10	9	13	8	15	119
9	Maharashtra	67	2	2	7	1	6	4	89
10	Mysore	56	4	3	3	1	...	...	61
11	Orissa	4	1	1	1	2	8	6	81
12	Punjab	27	1	...	3	4	4	9	22
13	Rajasthan	41	...	5	1	1	4	1	40
14	Uttar Pradesh	67	3	2	4	1	3	1	52
15	West Bengal	13	1	1	2	5	6	17	81
	UNION TERRITORIES								
1	Andaman and Nicobar Islands	...	...	...	...	...	1	...	1
2	Himachal Pradesh	2	...	...	...	...	...	...	2
3	Tripura	...	...	...	...	...	...	1	1
4	Goa, Daman and Diu	...	...	...	...	1*	...	...	1
5	Pondicherry	...	...	...	...	...	...	1	1

*Margao was a town in 1940 but the population figures are not ascertainable earlier to 1950.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



MAP 51

CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH
POPULATION 5,000—9,999, 1901—61

Purpose : The map depicts the chronological distribution of towns with population 5,000—9,999 categorised as class V towns during the period 1901—61. The map also indicates the location of towns with their year of origin.

Method : All the class V towns (5,000—9,999) of the country are shown by circles of uniform radius. They are then shaded in different colours, according to the decades of their origin. In the case of towns which attained urban status in one of the early censuses but lost it for one or more decades and subsequently regained, are depicted as follows :

Two vertical parallel lines are drawn in the middle of each circle signifying the break in the continuity of urban status of the town and the period for which it lost the urban status is indicated by capital letter in between the parallel lines as explained in the legend. The decade during which a town initially gained urban status is shown by the relevant colour as given in the legend on the left hand-side of the parallel lines and for regaining urban status, it is shown by respective colours on the right hand-side. Some important rivers and railway lines connecting the urban centres have been inserted in the map. An inset map of Calcutta Industrial Region on a bigger scale is also given on similar lines.

Salient Features : According to 1961 Census, there were altogether 848 class V towns (population 5,000 to 9,999) supporting more than 6.34 millions of population. A glance at the map reveals that the class V towns that originated in 1901 or before the twentieth century are lesser in number than the class V towns of later origin. One of the notable features is that while the western part of the country dominates with class V towns having origin in 1901 or before, the eastern part overwhelms with class V towns of later origin.

There are three major concentrations of class V towns of older origin— (a) western half of the Northern Plain, stretching from the Punjab Plain to Upper and Middle Ganga Valley (b) the southern Karnataka Plateau and (c) Kathiawar Peninsula. Uttar Pradesh supports the largest number of class V towns (60) all of which originated in 1901 or before followed by Mysore (46), Maharashtra (33) and Gujarat and Madhya Pradesh (30 each).

Growth of class V towns (5,000—9,999) somewhat stagnated between 1911 and 1921. Only 30 towns came into existence during the decade 1901—11. These towns are scattered all over the country. Only 28 towns originated during 1911—21 of which 8 are located in the State of Madras, 5 in Uttar Pradesh and 4 in Assam and the rest are sporadic in distribution. From 1931

onwards the number of class V towns went on increasing. During 1921—31, 57 new towns originated. Out of these, the State of Madhya Pradesh shares the maximum number of urban centres (13) followed by Madras (12) and Maharashtra (10). The remaining towns are sporadic in distribution except Assam, Bihar, Gujarat, Orissa, West Bengal and all the Union Territories where no towns originated in this decade.

About 73 clusters of rural population gained urban status in class V category during 1931—41. The State of Madras (15) shares the maximum number of urban centres originated during 1931—41 followed by the State of Andhra Pradesh (14) and Madhya Pradesh (13). The remaining towns are sporadic in distribution except Jammu and Kashmir, Kerala, Mysore and all the Union Territories where no towns originated during this decade.

Growth of class V towns was accelerated during 1941—51. 130 towns originated during this decade as against 73 in 1931—41. There are 6 major concentrations of them, viz., in the northern part of Telangana; Southern Tamilnad Upland; in littoral part of Maharashtra; in Kathiawar Peninsula; in Punjab Plain and in Southern Bihar. Andhra Pradesh shares the largest number (20) of class V towns that originated during the decade 1941—51 followed by Maharashtra (18) and Gujarat (16). The remaining towns were scattered in distribution. Gangtok, the capital of SIKKIM, belonging to this class of towns, originated during the decade 1941—51.

Growth of class V towns was further accelerated in the last decade. In all 223 towns sprang up during 1951—61. Most of these towns find their sites either along the transport lines or around industrial cities near the metropolises of the country. The largest proportion of the new towns that originated during the decade 1951—61 is in the States of West Bengal (34) followed by Madhya Pradesh and Madras (29 each) and Bihar (25). The remaining towns that originated during 1951—61 are sporadic in distribution.

There are altogether 65 class V towns which lost and regained urban status during 1901—61. Out of these about one-third (22) are located in Madhya Pradesh. It is worth mentioning that nearly one-third of the class V towns were declassified during the decade 1941—51. Sherghati in the district of Gaya in Bihar State was declassified twice during the decades 1901—11 and 1921—31 and regained urban status during the subsequent decades 1911—21 and 1931—41,

Class V towns according to 1961 Census (Population 5,000—9,999) with year of origin

Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total towns as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	308	30	29	57	74	127	223	848
	STATES								
1	Andhra Pradesh	20	4	3	5	14	20	6	72
2	Assam	...	...	4	...	1	...	19	24
3	Bihar	6	1	1	...	5	8	25	46
4	Gujarat	30	1	...	...	5	16	8	60
5	Jammu and Kashmir	...	4	...	2	...	...	...	6
6	Kerala	...	...	1	2	...	...	...	18
7	Madhya Pradesh	30	3	...	13	13	9	30	98
8	Madras	14	5	8	12	15	12	29	95
9	Maharashtra	33	4	1	10	5	18	17	88
10	Mysore	46	...	1	4	...	3	10	64
11	Orissa	2	2	...	...	6	4	11	25
12	Punjab	28	1	...	3	3	13	6	54
13	Rajasthan	26	3	2	1	4	14	1	51
14	Uttar Pradesh	60	2	5	5	1	2	4	79
15	West Bengal	7	...	2	...	1	6	34	50
	UNION TERRITORIES AND OTHER AREAS								
1	Himachal Pradesh	4	...	...	...	...	...	...	4
2	Tripura	...	...	...	...	...	...	...	4
3	Goa, Daman and Diu	1*	...	1**	...	...	...	4	4
4	Pondicherry	...	...	...	...	1†	...	1	4
5	Nagaland	1	...	...	...	...	...	2	2
6	SIKKIM	...	...	...	...	...	...	2	3
							1	...	1

*Daman was a town in 1900 but its population figures are not ascertainable before 1950.

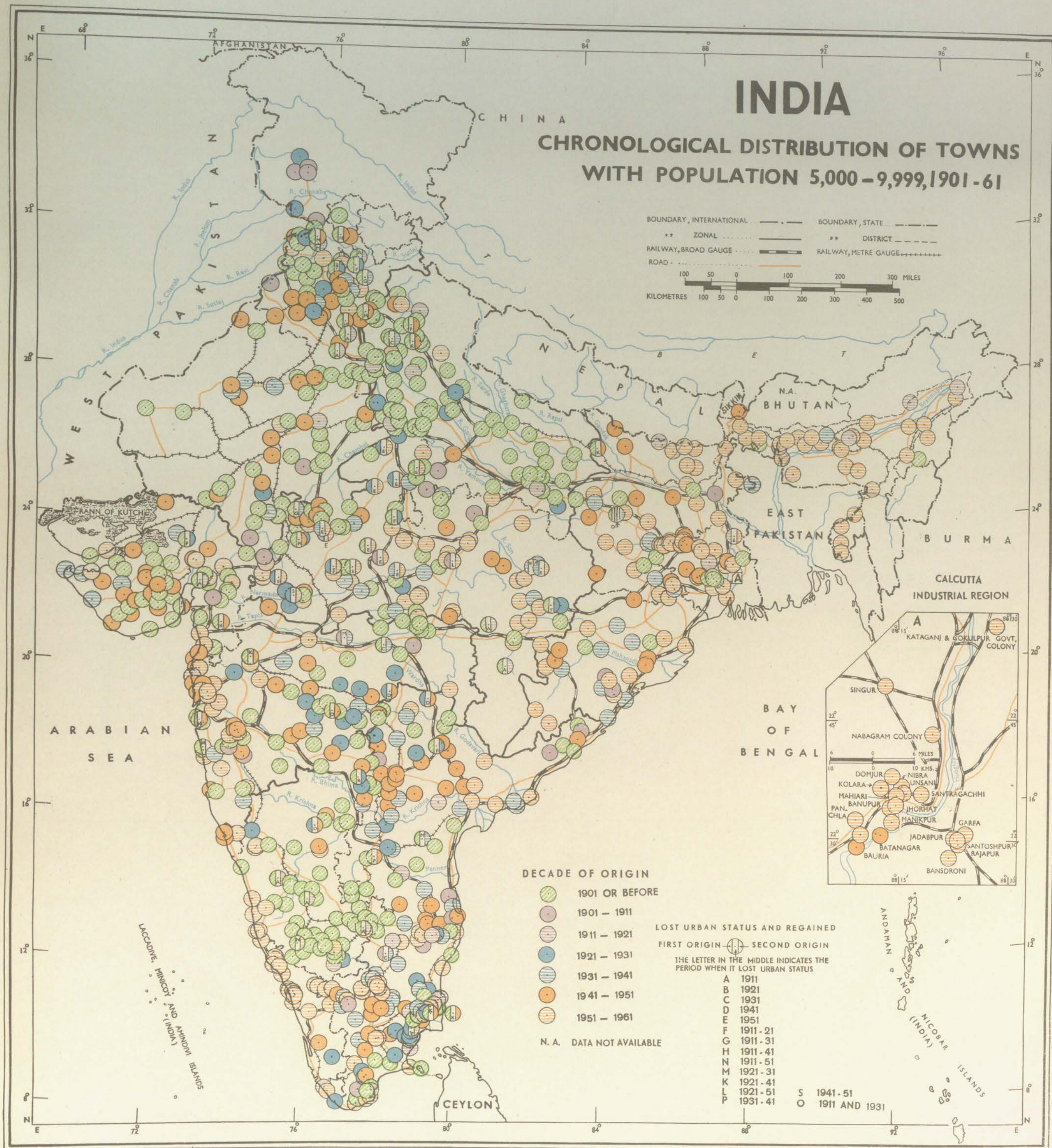
**Vasco-Da-Gama was a town in 1921 but its population figures are not ascertainable before 1950.

†Mapuca was a town in 1940 but its population figures are not ascertainable before 1950.

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

INDIA

CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION 5,000-9,999, 1901-61



CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION BELOW 5,000, 1901—61

Purpose : This map shows the distribution of class VI towns with population below 5,000 according to the decades of their origin during the period 1901—61.

Method : The towns of class VI category are shown in this map by circles of uniform radius. These circles are then shaded in different colours, according to the decades of attaining urban status by the towns as given in the index. In the case of towns which gained urban status in one of the earlier Censuses but lost it in subsequent decades and regained it, these are indicated as follows. Two vertical parallel lines are drawn in the middle of each circle signifying the break in the continuity of urban status of the town. The period during which a place lost the urban status is indicated by a capital letter in between the parallel lines as explained in the legend. The decade in which a place initially gained urban status is shown by a colour representing the decade as given in the legend on the left hand side of the parallel lines and the decade during which it regained urban status is shown by respective colour on the right hand side. Some important rivers and railway lines, connecting the urban centres, have been inserted in the map. An inset map of Calcutta Industrial Region on bigger scale has also been given on similar lines.

Salient Features : According to 1961 Census, there are altogether 268 class VI towns (population below 5,000), supporting a population of 889,962 persons. A glance at the map reveals that there are three major concentrations of class VI towns in the country: (i) a continuous belt from south-western part of Jammu and Kashmir through Punjab plains to Uttar Pradesh in Northern India; (ii) southern part of Karnataka Plateau and (iii) south-eastern part of Tamilnad Region. Other smaller agglomerations of class VI towns are noticed in the southern part of Punjab Plain, in northern part of Rajasthan in the western Malwa Plateau, in southern part of Konkan Coast, around the metropolises of Hyderabad and Madras and in the central part of the Brahmaputra Valley. Other class VI towns are scattered in distribution.

Only 62 class VI towns originated in 1901 or before. The largest number of such towns are shared by Mysore (25) followed by Punjab (20). The remaining towns of this class are scattered in distribution.

Growth of class VI towns is not very significant during the decade 1901—11. Out of 20 towns originated during 1901—11, 18 came into existence in the State of Jammu and Kashmir. Of the remaining two, Nazira in the district of Sibsagar in Assam and Jejuri in the district of Poona (Maharashtra) originated during this decade.

The period 1911 to 1941 did not show much progress in respect of the growth of class VI towns. In all 33 urban centres originated in the country during these decades. Majority of them are found in the north-western and southern parts of the country.

Growth of class VI towns was, however, accelerated during 1941—51. Out of 55 towns originated in this decade, the largest number sprang up in Punjab (17), followed by Andhra Pradesh (6), Rajasthan (6) and Uttar Pradesh (5). The remaining towns are sporadic in distribution in different parts of the country.

In the last decade the country witnessed the maximum growth of class VI towns (98). Majority of new towns came into existence in the State of Madras (25), particularly around the metropolis of Madras. Other concentration of new towns may be seen in the western part of Malwa plateau, southern part of Konkan Coast, north-western part of Jammu and Kashmir and the middle Brahmaputra Valley in Assam. The others are scattered in distribution.

There are altogether 35 class VI towns which lost and regained urban status during 1901—61. It may be noted that 23 of these towns originated in 1901 or before, but they were declassified in different years. Besides, 8 towns of class VI originated in the decade 1901—11. Rajura in Maharashtra and Dalhousie Cantt. in Punjab sprang up during 1921—31. The former was declassified in 1941, while the latter in 1951. Tankara in Gujarat and Pichhore in Madhya Pradesh achieved urban status in 1931—41, but were declassified in 1951. It may be pointed out that though Jutogh Cantt. which originated in 1901 or before remained all along urban, its independent urban status was lost for two decades 1911—21 and 1951, when it remained merged with Simla Municipal Committee in these years.

Class VI towns according to 1961 Census (Population below 5,000) with year of origin

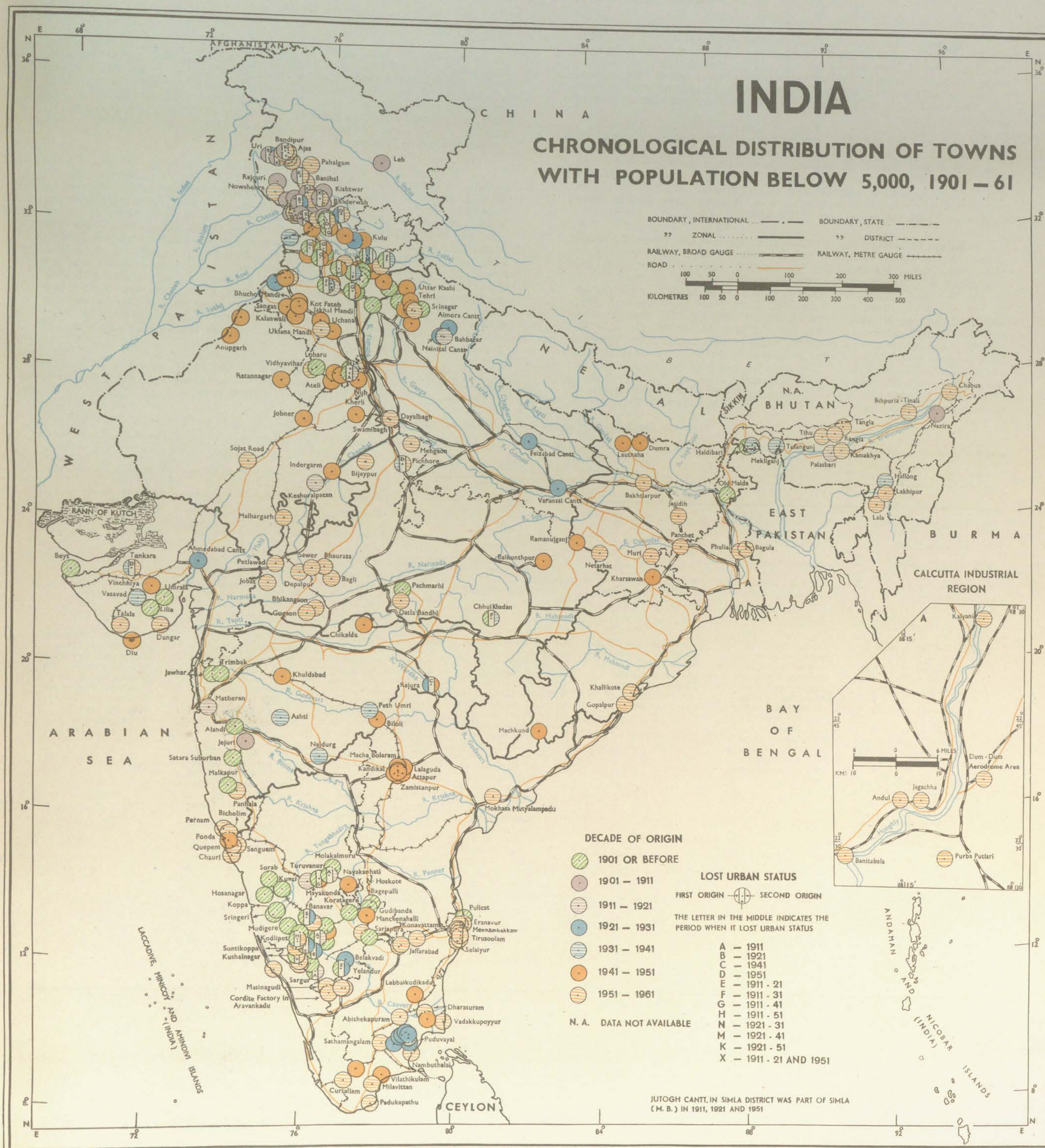
Sl. No.	State/Union Territory	1901 or before	1911	1921	1931	1941	1951	1961	Total towns as in 1961
1	2	3	4	5	6	7	8	9	10
	INDIA	62	20	7	16	10	55	98	268
	STATES								
1	Andhra Pradesh	...	...	...	...	...	6	1	7
2	Assam	...	1	1	...	1	...	8	11
3	Bihar	...	...	...	...	...	3	5	8
4	Gujarat	3	...	...	1	2	1	2	9
5	Jammu and Kashmir	...	18	...	...	...	...	12	30
6	Kerala	...	...	...	...	...	...	1	1
7	Madhya Pradesh	2	...	...	...	1	2	12	17
8	Madras	1	...	...	6	...	4	25	36
9	Maharashtra	5	1	1	1	3	3	1	15
10	Mysore	25	...	1	1	...	3	7	37
11	Orissa	...	...	...	...	...	1	2	3
12	Punjab	20	...	1	2	1	17	2	43
13	Rajasthan	...	...	1	...	...	6	2	9
14	Uttar Pradesh	3	...	1	4	...	5	3	16
15	West Bengal	2	...	...	...	2	...	8	12
	UNION TERRITORIES								
1	Himachal Pradesh	1	...	...	1	...	3	2	7
2	Goa, Daman and Diu	...	...	1*	...	...	1	5	7

*Diu was a town in 1921 but its population figures are not ascertainable before 1950.

Source : Census of India, 1961, Vol. I, India, Part II-A (i)—General Population Tables.

INDIA

CHRONOLOGICAL DISTRIBUTION OF TOWNS WITH POPULATION BELOW 5,000, 1901 - 61



CHRONOLOGICAL DISTRIBUTION OF TOWNS WHICH LOST URBAN STATUS IN ANY OF THE YEARS, 1901—61

Purpose : This map depicts the distribution of towns which lost urban status in any of the census years during 1901—61 and continued to be so in 1961, even some of them might have regained their urban status in the intervening period. If a town had lost its urban status in one decade, but regained it in another decade, again lost in the subsequent year and continued to be so upto 1961, the latter year in which the town lost its urban status has been indicated in the map.

Method : In all 1,080 towns of India lost urban status in any of the census years during 1901—61, but continued to be so in 1961, though some of them regained their urban status in one of the decades in the intervening period. The towns are shown by the circles of uniform radius without any differentiation of their size of population. Six different types of colours have been used in the circles to denote the census year in which a particular town lost its urban status during 1901—61 as indicated in the legend.

Salient Features : Out of the total number of 1,080 towns mentioned above, the maximum number are in Uttar Pradesh (317) followed by Maharashtra (161), Mysore (126), Gujarat (93), Andhra Pradesh (89) and Rajasthan (86). A glance at the map reveals that a large number of towns 803 or 74.35% of the total declassified towns did exist in 1951. The remaining 277 or 25.65% towns were declassified in any of the decades prior to 1961. The declassification of such a large number of towns in 1961 may be mainly attributed to the changes in the definition of a town in the 1961 Census. The number of towns which lost their urban status in 1961 Census is the highest in Uttar Pradesh State (222) followed by Maharashtra (128), Mysore (85), Rajasthan (84), Andhra Pradesh (74), Gujarat (74) and Madhya Pradesh (49). In Assam State, only one town and in Bihar State five towns lost their urban status only in 1961. Prior to 1961 in all 277 towns in the country lost urban status. Of them 95 are in Uttar Pradesh, 41 in Mysore, 33 in Maharashtra, 23 in Punjab,

20 in Madhya Pradesh etc.

Among 277 towns which were declassified prior to 1961, 87 towns were declassified in 1911, 41 towns in 1921, 44 in 1931, 36 in 1941 and 69 in 1951. In 1911, the highest number of towns declassified was in Uttar Pradesh (35) followed by Mysore (23) and Punjab (18). From 1921 to 1941 the number of declassified towns was the highest in Uttar Pradesh (52). In 1951, Gujarat State shared the maximum number of declassified towns (16) followed by Madhya Pradesh and Maharashtra 12 each, Jammu and Kashmir 7 and Andhra Pradesh 6, Mysore and Uttar Pradesh 5 each.

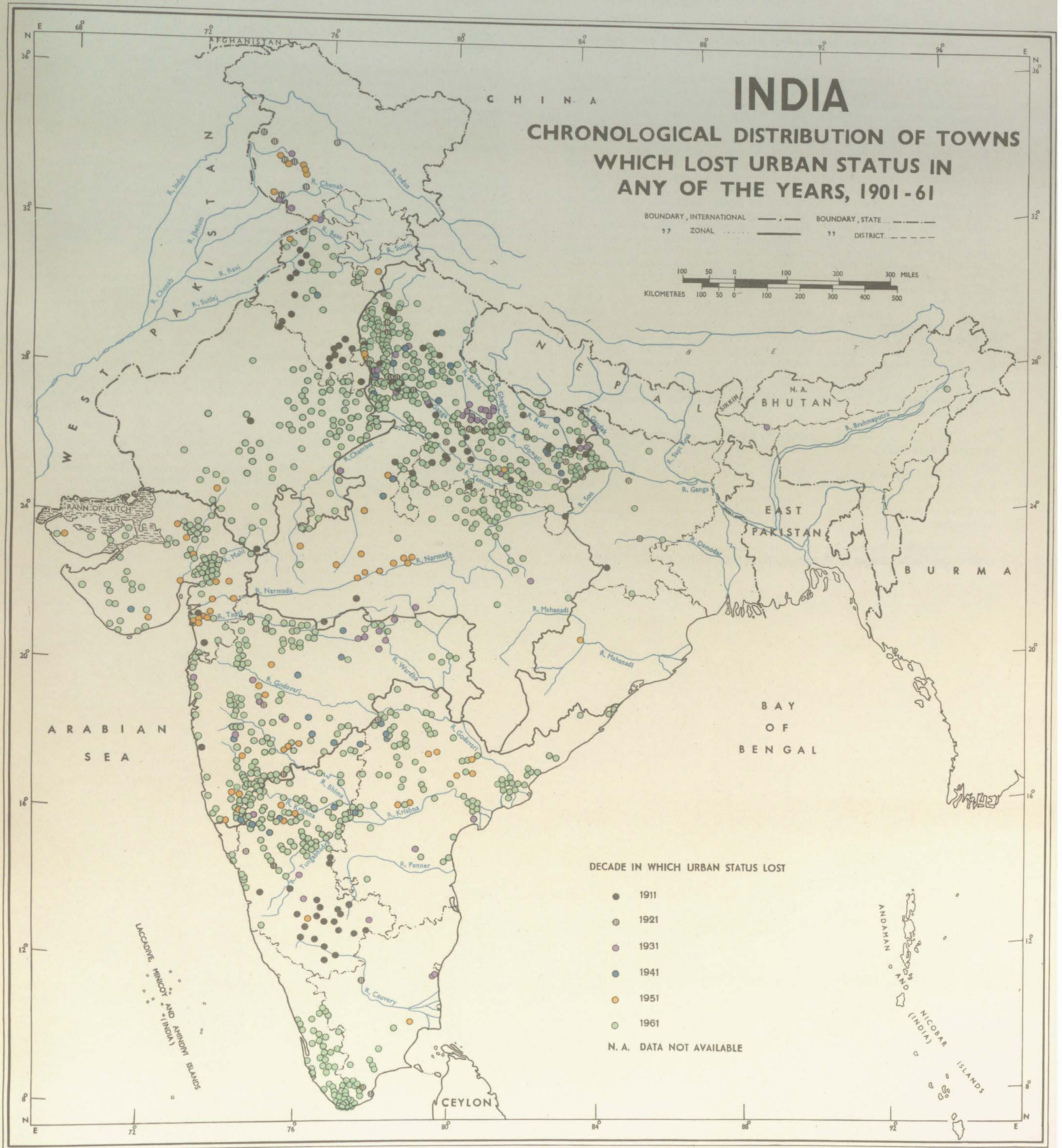
Of the total 803 towns of 1951 declassified in 1961, 239 towns were enjoying urban status in all the decades from 1901—51. The highest number of such towns is found in the State of Uttar Pradesh (151) followed by Rajasthan (33), Maharashtra (23), Gujarat (16), Mysore (8), Andhra Pradesh (3), Madras (3) and Madhya Pradesh (2). Except these eight states, no other state had any such town which enjoyed urban status from 1901—51 and was declassified in 1961. The reason for declassification of these towns in 1961 in many cases may be attributed to the changes in the census definition of a town. The declassification of 1,080 towns at the various censuses may be either due to the loss in urban functions or due to their merging with their neighbouring urban centres. Among them some of the towns lost their urban status in one decade and regained it again, lost it in any of the subsequent decades or in 1961. In the map the latter year of declassification has been indicated. The period in which a town regained its urban status has not been shown in the map.

The statement below shows that in the earlier censuses there have been tendencies to declare some areas as towns irrespective of the population. In 1961 census, the definition of a town is more strict.

Tests for Eligibility for places to be treated as Towns, 1901—61

Sl. No.	1961	1951	1941	1931	1921	1911	1901
1	2	3	4	5	6	7	8
1	Municipal Corporation	Municipal Corporation	Municipal Corporation	Municipal Corporation	Municipal Corporation	Municipal Corporation	Municipal Corporation
2	Municipal Area	Municipal Area	Municipal Area	Municipal Area	Municipal Area	Municipal Area	Municipal Area
3	Town Committee	Town Area Committee					
4	Notified Area Committee	Civil Lines not included in municipal limits	All Civil Lines not included in municipal limits	All Civil Lines not included in municipal limits	All Civil Lines not included within municipal limits	All Civil Lines not included within municipal limits	All Civil Lines not included within municipal limits
5	Cantonment Board	Cantonment	Cantonment	Cantonment	Cantonment	Cantonment	Cantonment
6	Selected places with	Test prescribed for distinguishing towns from villages in different States were based on ideas common to all States, but they were not identical nor had they been applied with meticulous uniformity. In the case of Princely States, the definition of town was applied a little indiscriminately.	Every continuous collection of houses inhabited by not less than 5,000 persons, which the Provincial Superintendent may decide to treat as a town.	Every other continuous collection of houses inhabited by not less than 5,000 persons, which the Provincial Superintendent decided to treat as urban. In making this decision consideration was given to (a) the character of the population; (b) relative density of the dwellings; (c) importance in trade, historic associations and to avoid treating as towns overgrown villages without urban characteristics.	Every other continuous collection of houses inhabited by not less than 5,000 persons, which the Provincial Superintendent may decide to treat as a town for census purposes. In Indian States where there were no municipalities, this definition was required to be extensively applied.	Every other continuous collection of houses inhabited by not less than 5,000 persons, which the Provincial Superintendent may decide to treat as a town for census purposes.	Every other continuous collection of houses permanently inhabited by not less than 5,000 persons, which the Provincial Superintendent may decide to treat as a town for census purposes.
	(a) density of not less than 1,000 per square mile;						
	(b) a population of 5,000;						
	(c) three-fourths of the working population should be working outside agriculture;						
	(d) or any other place, which, according to the Superintendent of the State, possesses pronounced urban characteristics and amenities.						
					Note : “In dealing with questions arising under head (6), the Provincial Superintendent will have regard to the character of the population, the relative density of the dwellings, the importance of the place as a centre of trade and its historic associations and will bear in mind that it is undesirable to treat as towns overgrown villages, which have no urban characteristics”.	Note : However, a few places, chiefly in the Native States which did not satisfy the requirements were treated as towns for special purposes. “The Provincial Superintendents were, however, instructed, when considering the question of treating places as towns on the basis of their population to take care to exclude, such as, are merely overgrown villages and have no urban features. It is true that the discretion thus allowed has occasionally led to a certain want of uniformity”.	

Source : Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



CITIES WITH POPULATION OVER 100,000 ACCORDING TO
THEIR PREDOMINANT FUNCTIONAL CHARACTER, 1961

Purpose : The map depicts the distribution of cities with population over 100,000 according to their predominant functional character in 1961.

Method : According to 1961 Census, the working population is categorised into nine industrial categories viz., I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map these nine categories have been combined and regrouped into five broad functional classifications—(i) Primary activities (Industrial categories I, II and III); (ii) Industry (Industrial categories IV, V and VI); (iii) Trade and Commerce (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Cities are shown by circles proportionate to their total urban population. Predominant functional characters are shown by sectoral divisions of the circles. Five distinct colours have been used for each of the five broad functional characters as shown in the legend to the map. For each of the cities, the percentage of workers under each of these five classes of economic activities to its total workers, has been calculated and according to the percentage values, its functional characters are determined. If workers under one of the occupations form 40% or more of the total workers, it will be a mono-functional city, e.g., industrial city or service city etc. If the percentage is less than 40%, the next predominant occupation is taken into account, so that the total of the two may come to 60% or above. Such a city may be designated as bi-functional city, e.g., industrial-cum-service city or commercial-cum-service city. If the total does not come upto 60%, the third predominant occupation is taken into account and such a city is designated as multi-functional city, e.g., industrial-cum-service-cum-commercial city. Circle with one colour indicates mono-functional city, circle with two colours represents bi-functional city and circle with three colours indicates multi-functional city.

An inset map of Calcutta Industrial Region on magnified scale is also given on similar lines.

Salient Features : In 1961, there are altogether 107 class I cities supporting more than 35.12 millions of urban population. Out of 107 cities, 7 are 'million cities' supporting 14.23 millions of urban population. They are the Greater Bombay, Calcutta, Delhi, Madras, Hyderabad, Bangalore and Ahmedabad.

A glance at the map reveals that mono-functional cities are more in number than bi-functional or multi-functional. Out of 107 cities, 52 are mono-

functional, 47 bi-functional and only 8 are multi-functional. Out of 52 mono-functional cities, 29 are industrial, 22 service and one of primary activity.

Of 29 industrial cities, 8 lie in the Calcutta Industrial Region of West Bengal, 5 in the State of Maharashtra (Greater Bombay, Thana, Malegaon, Sholapur and Nagpur) in the hinterland of Bombay, 4 in the Tamilnad Region (Salem, Coimbatore, Madurai and Nagercoil); 3 in Madhya Pradesh (Indore, Ujjain and Gwalior); 3 in Uttar Pradesh (Kanpur, Varanasi and Moradabad); 2 in Gujarat (Ahmedabad and Surat) and the remaining are scattered in distribution.

Service forms the predominant activity in 22 mono-functional cities, of which 15 lie in the Northern Plain and the remaining lie in the southern parts of the country. A distinct agglomeration of such urban centres is noticed in the Upper Ganga-Yamuna *doab*, particularly around the metropolis of Delhi. A small cluster of such Class I cities—Patna (M.C.) including Patliputra Housing colony and Muzzaffarpur lie in the Middle Ganga Valley of Bihar. It may be pointed out that most of these service cities are the administrative headquarters of the districts.

Kolar Goldfields city in Mysore is the only mono-functional city with predominance of primary activity. This city supports 29,959 persons engaged mainly in mining activities, i.e., 70.44% of the total population of the city.

In all 47 cities are bi-functional in character, of which 43 serve as industry-cum-service cities. There are eleven small concentrations of industry-cum-service cities which are located in the Northern Plain and in the littoral parts of the country. There are four bi-functional cities of which one is industry-cum-trade and commerce city (Ulhasnagar) in Maharashtra, two in West Bengal of which Kharagpur is transport-cum-industry city and Burdwan is service-cum-trade and commerce city and the fourth is service-cum-transport city (Ajmer) in Rajasthan.

Only 8 class I cities of the country are multi-functional in character—five are service-cum-industry-cum-trade and Commerce, one is industry-cum-service-cum-trade and Commerce, another is service-cum-transport-cum-industry and the last one is industry-cum-service-cum-transport. Among five service-cum-industry-cum-trade and Commerce cities, two are in the cotton growing areas of Maharashtra, two in the Krishna-Godavari delta of Andhra Pradesh, and one in Raipur district of Madhya Pradesh. The city with service-cum-transport-cum-industry centre is Asansol in West Bengal and the industry-cum-service-cum-transport city is Jhansi in Uttar Pradesh. The city with industry-cum-service-cum-trade and Commerce is Tuticorin in Madras.

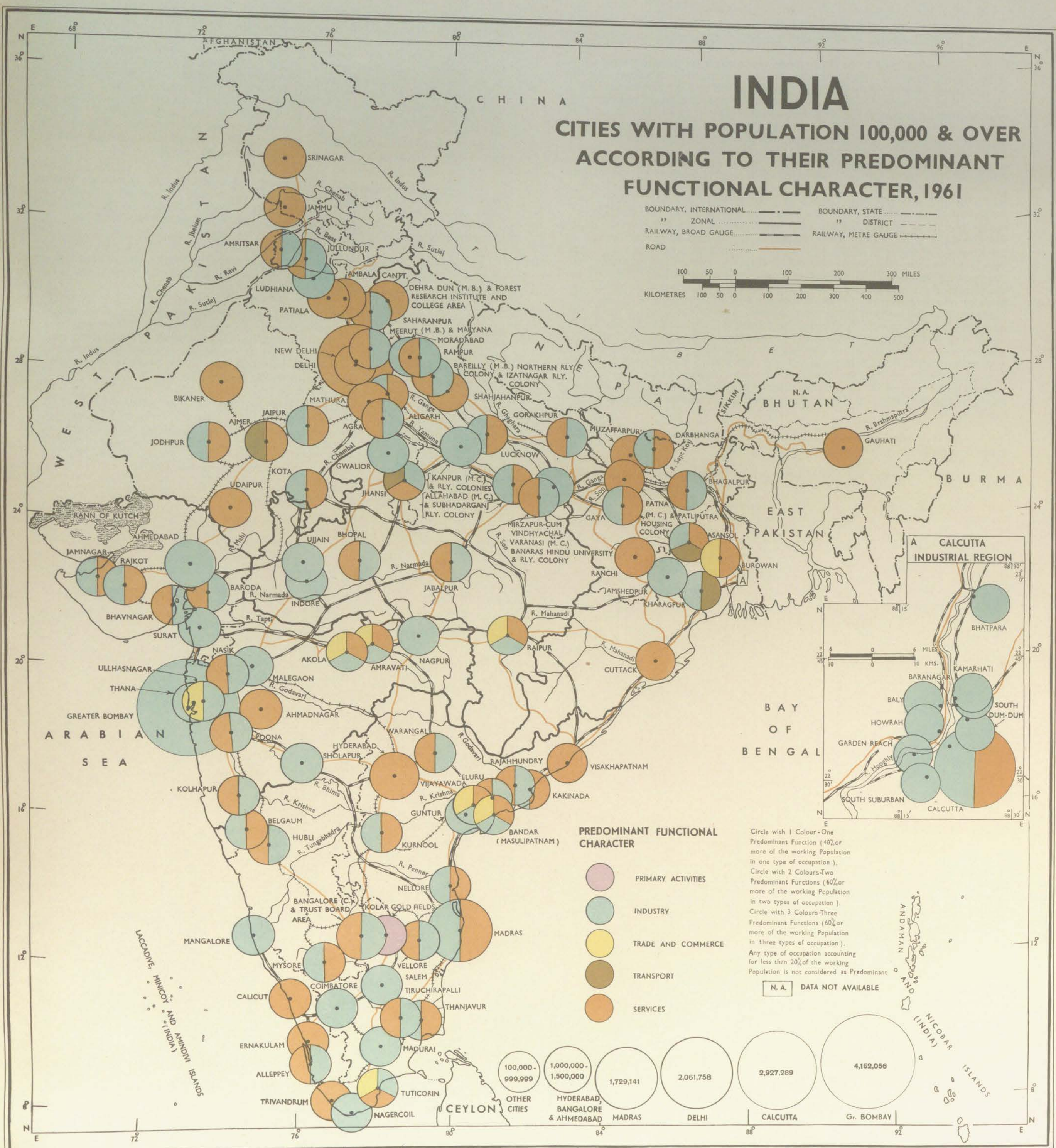
Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

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CITIES WITH POPULATION 100,000 & OVER
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961

BOUNDARY, INTERNATIONAL
" ZONAL
RAILWAY, BROAD GAUGE
ROAD
BOUNDARY, STATE
" DISTRICT
RAILWAY, METRE GAUGE

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500



**TOWNS WITH POPULATION 50,000—99,999 ACCORDING TO
THEIR PREDOMINANT FUNCTIONAL CHARACTER, 1961**

Purpose : The map depicts the distribution of towns with population 50,000—99,999 according to their predominant functional character in 1961.

Method: According to 1961 Census, the workers are categorised into nine industrial categories: I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map, these nine categories have been combined and regrouped into five broad categories representing five main functions of towns, (i) Primary activities (Industrial categories I, II and III); (ii) Industry (Industrial categories IV, V and VI); (iii) Trade and Commerce (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Size of the towns is shown by circles proportionate to the total urban population. Predominant functional characters are shown by sectoral divisions of the circles. Five distinct colours have been used for each of the five broad functional characters. For each of the towns, the percentage of workers to the total workers under each of these five classes of economic activities has been calculated and the functional character of towns is determined according to their percentage values. If workers under one of the occupations form 40% of the total workers or above, it will be a mono-functional town, e.g., industrial town or commercial town. If the percentage figure is less than 40%, the next predominant occupation is taken into account, so that the total of both the occupations comes to 60% or above. Such a town is designated as bi-functional town, e.g., industrial-cum-service town or commercial-cum-transport town. If the total of the two occupations does not come upto 60%, then the third predominant occupation is taken into account and such a town is designated as multi-functional town, e.g., industrial-cum-service-cum-transport town and so on. Circle with one colour shows one predominant function, circle with two colours shows two predominant functions and circle with three colours indicates multi-functions.

An inset map of Calcutta Industrial Region on magnified scale is also given on similar lines.

Salient Features : In 1961, there were altogether 139 class II towns

with a population size 50,000—99,999 in the country. A glance at the map reveals that mono-functional towns are more in number than either of bi-functional or multi-functional towns. Sixty eight towns show single function, 45 towns bi-functions and only 26 towns show multi-functions. In all 35 mono-functional towns are industrial. Eight out of them are agglomerated in the Calcutta Industrial Region. Jute, paper, cotton, engineering industries etc., have given an impetus to the growth of these medium sized (class II) industrial towns in the Hooghly Region. The other areas of concentrations are the Ganga-Yamuna *doab*, southern Punjab Plain, Gujarat Plain, Tamilnad Plateau etc. The rest of the industrial towns are dispersed all over the country. Special mention may be made of Rourkela which is a steel town of recent origin and it supports more than 90 thousand people.

'Services' forms the predominant activity in 30 mono-functional towns, of which 14 lie in the Northern Plain and others show sprinkled locations. Most of these service-centres are the administrative headquarters of the districts or Union Territories. As a result, service towns rank next to industrial towns in number.

Out of sixty eight mono-functional towns, only two towns (Kothagudem in Andhra Pradesh, Valparai in Madras) are primary activity towns and one (Bhusawal in Maharashtra) is transport town.

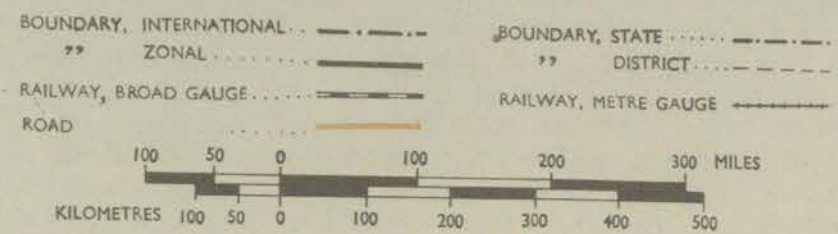
About forty five towns are bi-functional in character, out of which thirty five serve as industry-cum-service towns; two towns (Muzaffarnagar and Hathras in Uttar Pradesh) serve as service-cum-trade and commerce & one (Virdunagar in Madras) shows as industry-cum-trade and commerce town, one (Dibrugarh in Assam) as service-cum-transport town, and one (Rayapalam in Madras) as industrial-cum-primary activity town.

Twenty seven towns with a population of 1.78 million are multi-functional in character. They support 18.72% of the total population of class II towns. Such towns occur more in number in the Northern Plain, mainly in the tea and jute growing districts of West Bengal, the sugarcane belt of North Bihar and wheat-cotton-sugar belt of western Uttar Pradesh and Punjab. Majority of them are service-cum-industry-cum-commerce towns.

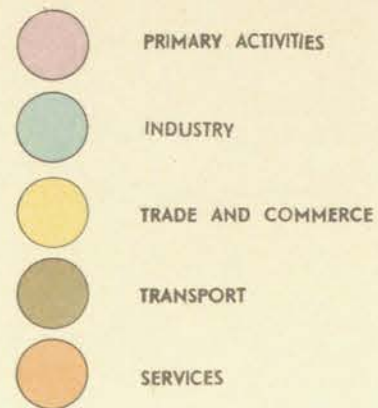
Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.

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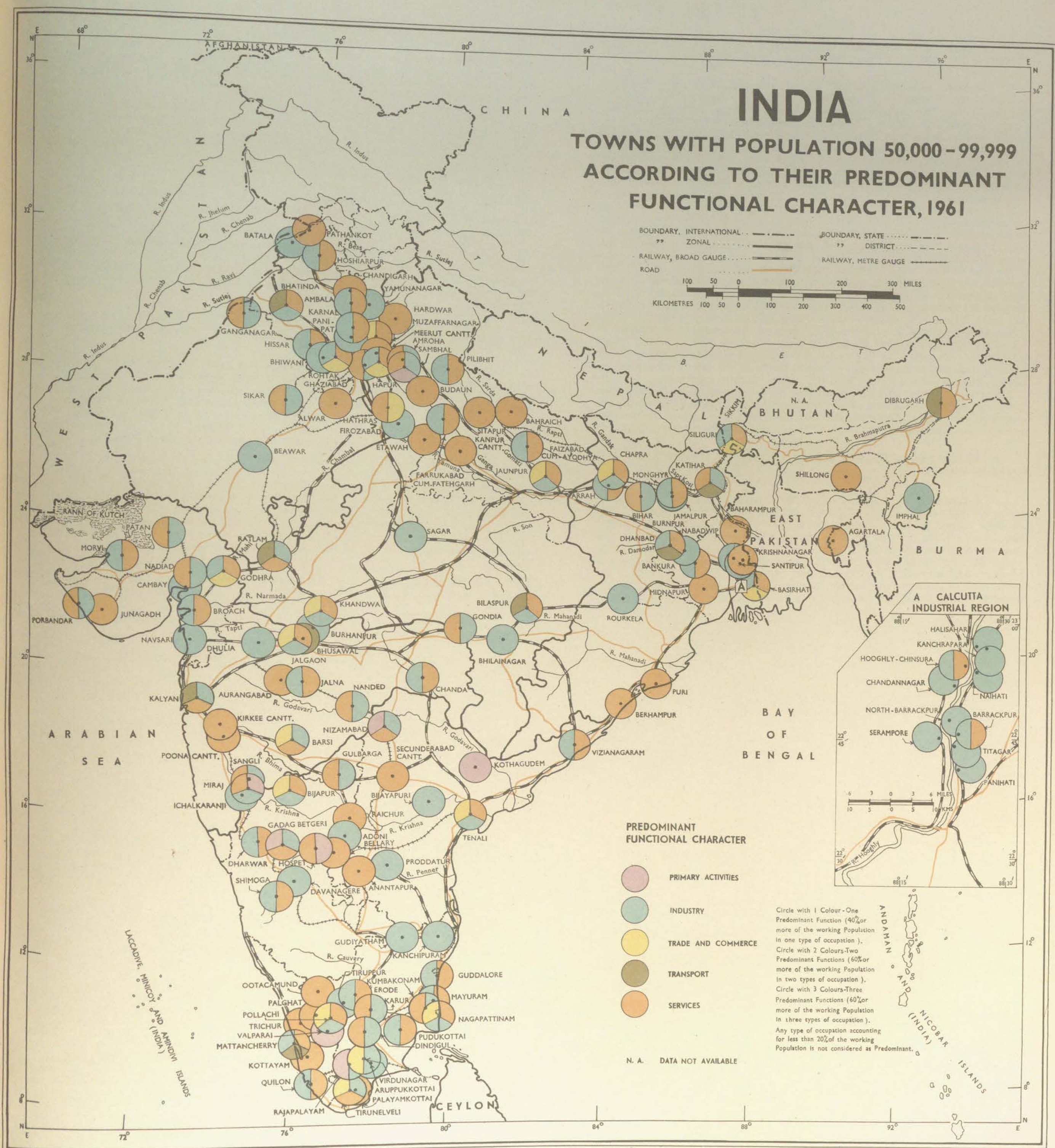
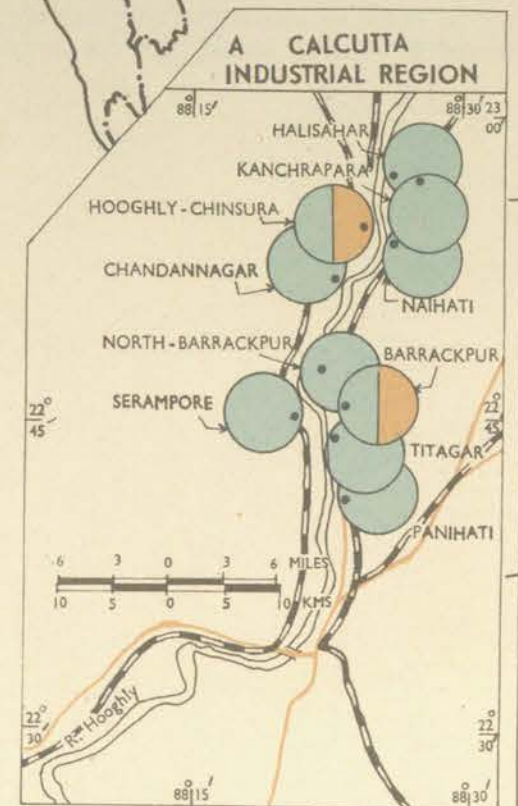
TOWNS WITH POPULATION 50,000-99,999
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961



PREDOMINANT FUNCTIONAL CHARACTER



N. A. DATA NOT AVAILABLE



TOWNS WITH POPULATION 20,000—49,999 ACCORDING TO
THEIR PREDOMINANT FUNCTIONAL CHARACTER, 1961

Purpose : The map shows the distribution of towns with population 20,000—49,999 according to their predominant functional character in 1961.

Method : According to 1961 Census, the workers are categorised into nine industrial categories: I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map, these nine categories have been regrouped into five broad categories, representing five main functions of towns, such as—(i) Primary activities (Industrial categories I, II and III); (ii) Industry, (Industrial categories IV, V and VI); (iii) Trade and Commerce, (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Size of the towns is shown by circles proportionate to the total urban population. Predominant functional characters are shown by sectoral divisions of the circles. Five distinct colours have been used for five broad functional characters. For each of the towns, the percentage of workers to the total workers under each of these five broad categories of economic activities has been calculated and the functional character of town is determined according to their percentage values. If the workers under one of the occupations form 40% of the total workers or above, then it will be a mono-functional town, e.g., primary activity or industrial town. If the percentage figure in one activity is less than 40% the next predominant occupation is taken into account, so that the total of both comes to 60% or above. Such a town is designated as bi-functional town, such as, industrial-cum-service town or trade and commerce-cum-transport town. If the combined percentage of two activities does not come upto 60%, then the third predominant function is taken into account and this town may be designated as multi-functional town, e.g., industrial-cum-service-cum-transport town and so on. Circle with one colour shows one predominant function; that with two colours shows two predominant functions and that with three colours indicates multi-functions.

An inset map of Calcutta Industrial Region on a bigger scale is also drawn on similar lines.

Salient Features : According to 1961 Census, there are 518 Class III towns (20,000—49,999) supporting 15.75 millions people of the country. Out of these towns 237 are mono-functional, 149 bi-functional and 132 multi-functional. In the order of strength the four categories of mono-functional class III towns are—(i) service; (ii) industrial; (iii) primary activity and (iv) transport. Majority of the towns of mono-functional character are in the States of Madras, Maharashtra, Uttar Pradesh and West Bengal. Nearly half of the mono-functional towns (109) are service towns which are dispersed all over the country. Uttar Pradesh has the largest number of service towns (23) followed by

Kerala (11), Madras (10), West Bengal (9), Orissa (8), 7 each in the States of Maharashtra and Punjab, 6 in Madhya Pradesh, 5 each in the States of Andhra Pradesh, Bihar and Gujarat, 4 each in the States of Assam and Mysore, 3 in Rajasthan and 1 each in the Union Territories of Pondicherry and Delhi. Many of these service towns are administrative headquarters of the districts and Union Territories.

Industry is the predominant activity in 102 mono-functional towns. They are largely agglomerated in Madras (23) followed by West Bengal (17). Smaller concentrations may be seen in the Chittaranjan-Durgapur industrial belt, the Bhakra-Nangal area of Punjab, the conurbation area of Ahmedabad and Greater Bombay, the Nagpur Plain of Maharashtra, the southern part of the Karnataka Plateau, the littoral part of Andhra Pradesh and Madras. Others are dispersed in location. Some of these Class III Industrial towns have sprung up in 1961, e.g., Durgapur for manufacturing iron and steel. The other industrial towns of earlier origin find their sites in other important industrial belts of the country.

There are 21 towns where primary activity is predominant. Major concentration of primary activity towns is visible in the cotton-growing region of Maharashtra (10). The remaining 11 towns are distributed in the States of Bihar (4), 2 each in Andhra Pradesh, Gujarat and Madras and one in Madhya Pradesh.

Out of five transport towns, two lie in Assam (Pandu and Lumding), two in Bihar and one in Uttar Pradesh. They are all important railway junctions in the country.

Out of bi-functional towns, 86 are service-cum-industrial towns, 22 are service-cum-primary activity towns, 13 are industrial-cum-primary activity towns, 23 are service-cum-trade and commerce towns, 3 are industrial-cum-trade and commerce towns and 2 are service-cum-transport towns. Service is common in the majority of these towns. Most of the service-cum-industrial towns find their sites in Mysore, Madhya Pradesh, West Bengal, the east coast of Madras, the western half of Uttar Pradesh and the Kota basin of Rajasthan.

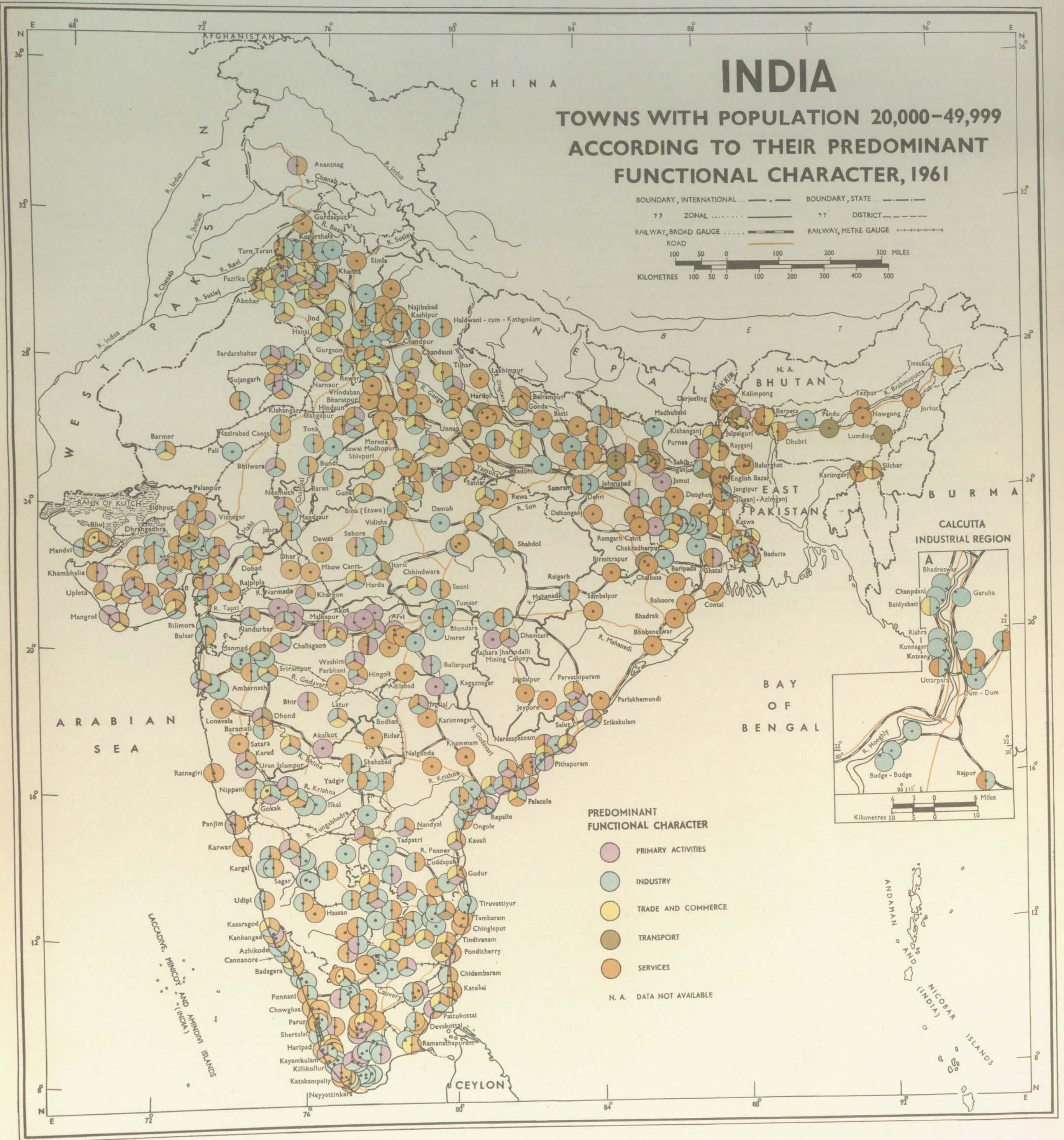
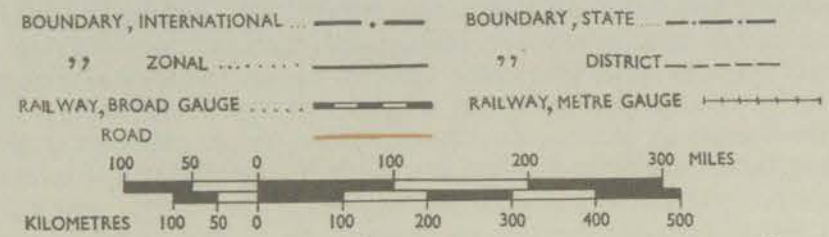
Nearly one-fourth (132 towns) of the total Class III towns are multi-functional in character. Concentrations of such towns may be noticed more in the Southern Plateau than in the Northern Plain. The littoral part of Andhra Pradesh, the Tamilnad region of Madras, North Karnataka Plateau, Gujarat, Punjab Plain, North-western part of the Ganga-Yamuna *doab* and Hooghly region show some agglomerations of multi-functional towns, most of which are service-cum-industrial-cum-trade and Commerce towns. The next important Class III multi-functional towns are industrial-cum-service-cum-primary activity towns.

The States of Jammu and Kashmir, Assam and Orissa are completely devoid of multi-functional class III towns.

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.

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TOWNS WITH POPULATION 20,000-49,999
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961



**TOWNS WITH POPULATION 10,000—19,999 ACCORDING TO THEIR
PREDOMINANT FUNCTIONAL CHARACTER, 1961**

Purpose : The map shows the distribution of towns with population of 10,000—19,999 according to their predominant functional character in 1961.

Method : According to the 1961 Census classification, workers are divided into nine categories of economic activities in the country, viz., I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map, these nine categories have been regrouped into five broad categories representing five main functions of towns, such as—(i) Primary activities (Industrial categories I, II and III); (ii) Industry (Industrial categories IV, V and VI); (iii) Trade and Commerce (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Size of the towns is shown by circles proportionate to the total urban population. Predominant functional characters are shown by sectoral divisions of the circles. Five distinct colours have been used for five broad functional characters. For each of the towns, the percentage of workers to the total workers under each of these five classes of economic activities has been calculated and the functional character of towns is determined according to their percentage values. If workers under one of the occupations form 40% of the total workers or above, then it is treated as mono-functional town, such as, industrial or commercial or transport or service or primary activity town. If the percentage figure of one occupation is less than 40%, the next predominant occupation is taken into account, so that the total of both comes to 60% or above. Such a town is designated as bi-functional town, e.g., industrial-cum-service or trade and commerce-cum-transport town. If the total of two occupations does not come to 60%, then the third predominant occupation is taken into account and this town is designated as multi-functional town, e.g., industrial-cum-service-cum-transport town and so on. Circle with one colour shows one predominant function; circle with two colours shows two predominant functions and circle with three colours indicates multi-functions.

Two inset maps of the States of Kerala and Madras and Calcutta Industrial Region on bigger scale are also shown.

Salient Features : In 1961, there are altogether 820 towns each with a population size 10,000—19,999 in the country. A glance at the map reveals that mono-functional towns are more in number than either of bi-functional or multi-functional towns. In all 385 towns are mono-functional, 216 are bi-functional and 219 are multi-functional. In the order of their strength, mono-functional class IV towns fall mainly under three categories, viz., primary activity, industrial and services. It may be noted that more than one-third of the mono-functional towns show primary activity functions. Majority of such towns are concentrated in the cotton-growing areas of the Deccan Plateau. Other small concentrations are seen in the northern and central parts of Rajasthan and the coastal areas of Andhra Pradesh and Gujarat. The remaining towns show sporadic distribution. Other mono-functional towns, such as, industrial, service, trade and commerce and transport are unevenly distributed all over the country.

The biggest linear concentration of mono-functional class IV primary activity towns is noticed in the western Karnataka Plateau of Mysore. The second largest linear concentration of such towns may also be seen along the Bombay-Nagpur railway line which passes through the rich cotton-growing region of Maharashtra. Other small clusters are visible in the coastal parts of Andhra Pradesh in the Tamilnad Upland of Madras State and areas lying in the east of the city of Jodhpur in Rajasthan and in the northern part of Gujarat. Out of 166 primary activity towns, the state of Maharashtra shares the largest number (37) followed by Mysore (31), Madras (30), Andhra Pradesh (20), Rajasthan and Bihar (11 each). In other states, the distribution of primary activity towns is not so significant.

Industry forms the next predominant activity in 104 mono-functional class IV towns, of which 26 lie in the state of Madras. It may be pointed out that there are about 8 small agglomerations of industrial towns throughout the country, of which three clusters lie in the state of Madras viz., 6 towns in the conurbation area of Madras city, 2 towns south of Pondicherry and 2 towns in the southern Tamilnad Plains. Other clusters are noticed in the states of Andhra Pradesh (Armur in Nizamabad, Sirsilla and Koratla in Karimnagar), Madhya Pradesh (Maihar in Satna, Kymore Factory Township in Jabalpur), West Bengal (Sarenga, Sankrail, Fort Gloster and Birlapur in Howrah). In Uttar Pradesh there are also two small clusters—one lying in the Ganga-Yamuna *doab*, the other in the eastern part of Ganga Valley. The rest of the industrial towns are scattered in distribution.

103 towns are recorded as service towns of which 14 lie in the western part of Uttar Pradesh, 12 in the State of Orissa and 13 in Madras. Others are dispersed in location. It may be noted that there are a dozen mono-functional towns which are either transport or trade and commerce towns in functions.

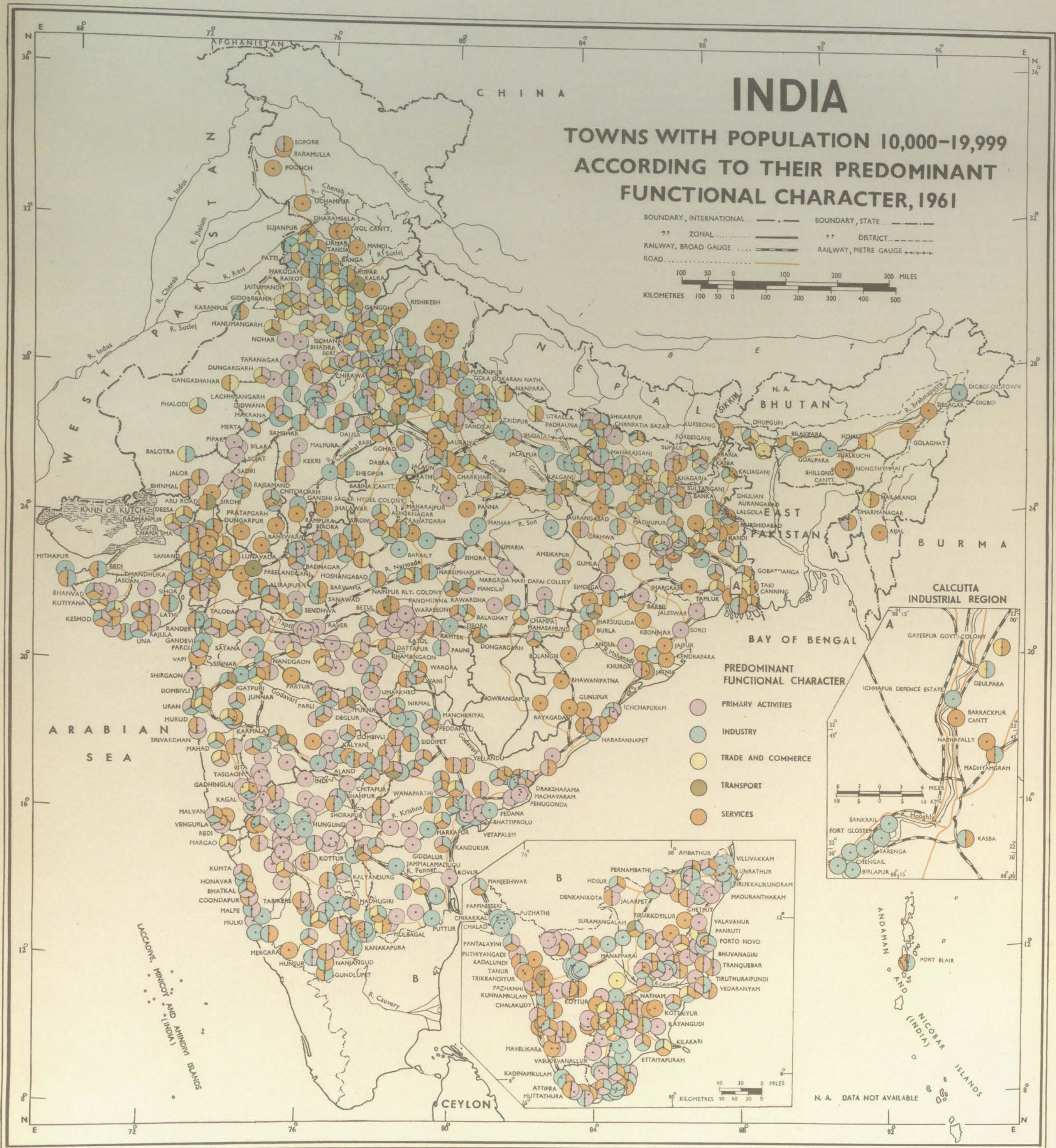
Out of 820 class IV towns, 216 are bi-functional in character. The largest concentrations of such towns are noticed in the Vindhyan scarplands of Malwa Plateau. Other small clusters are also seen in the Calcutta Industrial Region, Southern part of the Karnataka Plateau, in the hinterland of Madras, northern part of Kerala plains and littoral parts of Andhra Pradesh and Orissa. The largest number, however, of bi-functional towns may be seen in the states of Mysore (28), followed by Madras (27), Andhra Pradesh (22), Rajasthan, Uttar Pradesh and Madhya Pradesh (19 each) and Gujarat (18) and so on.

A heavy agglomeration of multi-functional towns is noticed in the Punjab Himalayan region and the Ganga-Yamuna *doab* area in Uttar Pradesh. Other small concentrations are seen in the Middle Ganga Plain in Bihar, in the Damodar Valley Region, around the industrial city of Ahmedabad and in southern part of Kathiawar peninsula and the Krishna Delta in Andhra Pradesh. Out of 219 multi-functional class IV towns, the state of Maharashtra (31) shares the maximum number, followed by Uttar Pradesh (28), Punjab (23), Madras (22), Madhya Pradesh (20), Andhra Pradesh (19), Bihar (18) etc. The remaining States and the Union Territories show a thinner concentration of multi-functional towns.

Source :— Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

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TOWNS WITH POPULATION 10,000-19,999
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961



**TOWNS WITH POPULATION 5,000—9,999 ACCORDING TO
THEIR PREDOMINANT FUNCTIONAL CHARACTER, 1961**

Purpose : The map depicts the distribution of class V towns, *i.e.*, with a population 5,000—9,999 according to their predominant functional character in 1961.

Method : According to the 1961 Census classification, the workers are classified under nine categories of economic activities, *viz.*, I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied Activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map, these nine categories have been regrouped into five broad categories representing five main functions of towns, such as—(i) Primary activities (Industrial categories I, II & III); (ii) Industry (Industrial categories IV, V & VI); (iii) Trade and Commerce (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Size of the towns is shown by circles proportionate to the total urban population. Predominant functional characters are shown by sectoral divisions of the circles. Five distinct colours have been used for five broad functional characters. For each of the towns, the percentage of workers to the total workers under each of these five classes of economic activities has been calculated and the functional character of towns is determined according to their percentage values. If workers under one of the occupations form 40% of the total workers or above, then it will be a mono-functional town, *e.g.*, industrial or commercial or transport or service or primary activity town. If the percentage figure of one occupation is less than 40%, the next predominant occupation is taken into account, so that the total of the two comes to 60% or above. Such a town is designated as bi-functional town, *e.g.*, industrial-cum-service or trade and commerce-cum-transport town. If the total of two occupations does not come to 60%, then the third predominant occupation is taken into account and this town is designated as multi-functional town, *e.g.*, industrial-cum-service-cum-transport and so on. Circle with one colour shows one predominant function; circle with two colours shows two predominant functions and circle with three colours indicates multi-functions.

Three inset maps of Thanjavur district of Madras State, Dhanbad district of Bihar State and Calcutta Industrial Region on bigger scale are also drawn on similar lines.

Salient Features : According to 1961 Census, there are altogether 848 class V towns in the country of which 453 towns are mono-functional, 216 are bi-functional and 179 towns are multi-functional.

Among the mono-functional towns of class V, the predominant types of towns are of primary activities. They are more in the Peninsular part than the Northern Plains. Even in the Peninsula, they are more concentrated in the Maharashtra, Karnataka and Telangana Plateaus and littoral parts of Andhra Pradesh and Madras States. In Andhra Pradesh, primary activity towns are

scattered all over the State. In Maharashtra, they form two major clusters—one around the city of Osmanabad and the other around Nagpur. A few other small clusters may be seen in the Southern Karnataka Plateau, around the city of Bangalore, in the Kathiawar Peninsula, in the Northern part of Andhra Pradesh and in the middle Cauvery Valley in Madras. Out of 238 primary activity towns, 41 lie in Andhra Pradesh, 38 in Maharashtra, 33 in Madras, 27 in Mysore, 23 in Madhya Pradesh, 19 in Gujarat, 18 in Rajasthan, 17 in Bihar and so on.

The next important types of mono-functional towns are service (104) and industrial towns (95). Out of 104 service towns, the State of Orissa (14) shares the maximum number of service towns followed by Uttar Pradesh (10), Madras (9), Maharashtra (8), Madhya Pradesh (7), 6 each in Assam, Rajasthan and West Bengal and so on.

Among 95 industrial towns of class V, Madras shares the highest number (22) followed by West Bengal (16), Madhya Pradesh (12), Maharashtra (10), Mysore (9), Uttar Pradesh (6), Gujarat (5) and so on. The other States also support a few industrial towns.

Transport and Trade & Commerce towns are very negligible in number among the mono-functional class V towns. There are only 8 transport towns which are mostly located at the nodal points of roads or railway junctions and 8 Trade & Commerce towns are distributed in the Northern Plains of the country.

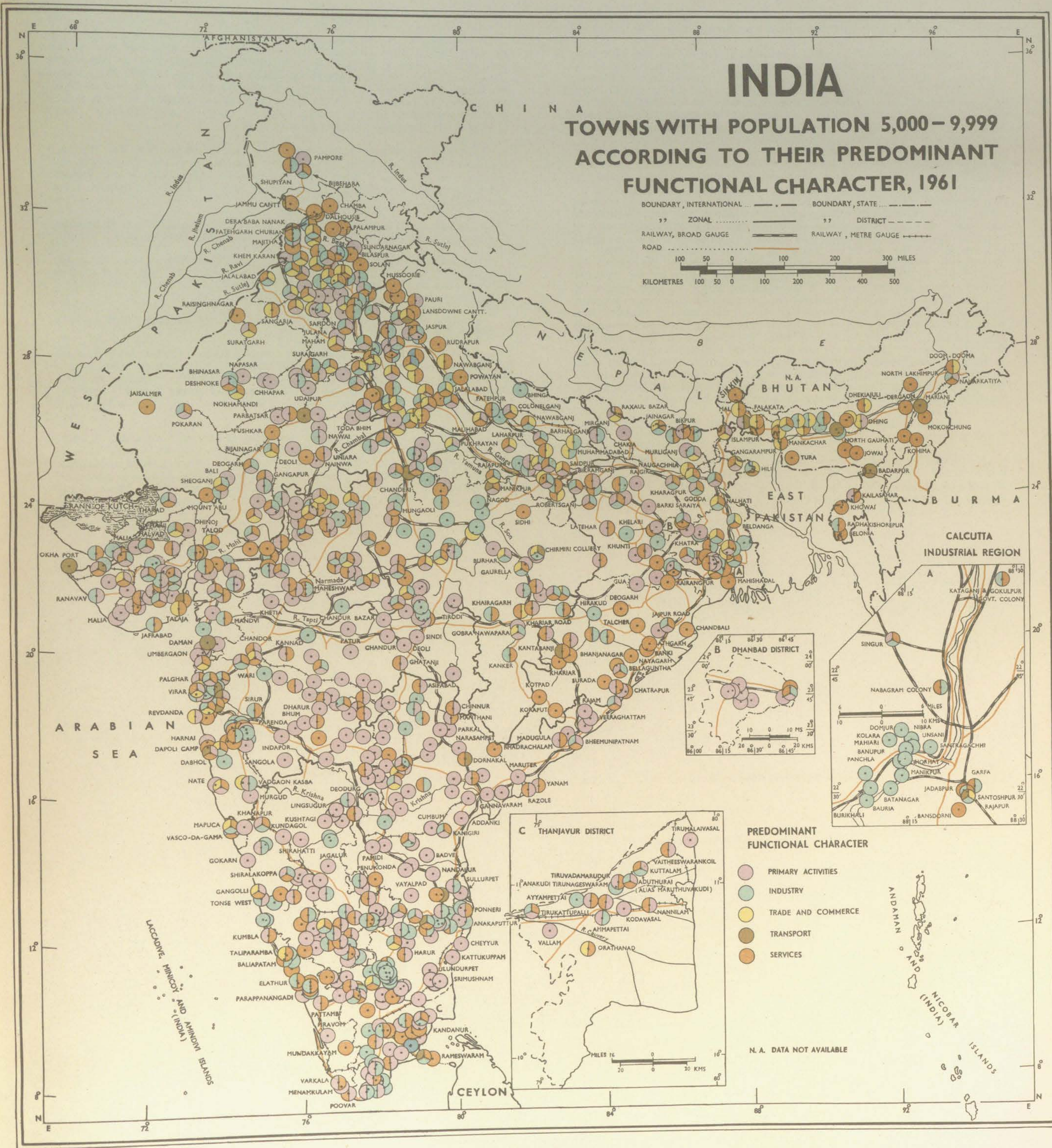
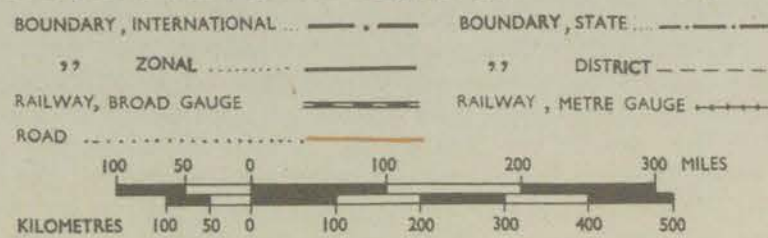
Out of 848 class V towns, only 216 towns are bi-functional in character. It is worthy to note that the biggest concentrations of bi-functional towns is seen in the Punjab Plain and in the Ganga-Yamuna *doab* area in Uttar Pradesh. The other areas of large agglomerations of such towns are noticed in the southern part of the Karnataka Plateau, western part of Malwa Plateau and the Kathiawar Peninsula. The other smaller clusters of bi-functional towns may also be seen in the eastern part of Uttar Pradesh, North Bihar Plain, Upper Mahanadi Valley in Madhya Pradesh, in the Lower Brahmaputra Valley in Assam and littoral part of Madras State. Madhya Pradesh shares the highest number of bi-functional towns (31), followed by Uttar Pradesh (24), Madras (21), Mysore and Gujarat (18 each), Punjab and Maharashtra (15 each), West Bengal (14) and Andhra Pradesh (13) and so on.

Only 179 class V towns are multi-functional in character. Such towns are more frequent in the northern part of the country, particularly in the cotton and sugarcane growing areas of the Punjab Plain and the Ganga-Yamuna *doab* area of Uttar Pradesh. Some small agglomerations of multi-functional towns may be seen around the metropolises of Calcutta and Bombay. Uttar Pradesh shares the highest number (35) of multi-functional class V towns followed by Madhya Pradesh and Punjab (24 each), Maharashtra (16), Rajasthan (14) and so on. The remaining multi-functional towns are distributed in other States.

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

INDIA

TOWNS WITH POPULATION 5,000-9,999
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961



TOWNS WITH POPULATION BELOW 5,000 ACCORDING TO
THEIR PREDOMINANT FUNCTIONAL CHARACTER, 1961

Purpose : The map depicts the distribution of towns with a population below 5,000 according to their predominant functional character in 1961.

Method : According to 1961 Census classification, workers are classified under nine categories of economic activities, viz., I—As Cultivator; II—As Agricultural labourer; III—In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities; IV—At Household Industry; V—In Manufacturing other than Household Industry; VI—In Construction; VII—In Trade & Commerce; VIII—In Transport, Storage & Communications and IX—In Other Services. For this map, these nine categories have been regrouped into five broad categories representing five main functions of towns, such as—(i) Primary activities (Industrial categories I, II and III); (ii) Industry (Industrial categories IV, V and VI); (iii) Trade and Commerce (Industrial category VII); (iv) Transport (Industrial category VIII) and (v) Services (Industrial category IX). Size of the towns is shown by circles proportionate to the total urban population. Predominant functional character is shown by sectoral divisions of the circles. Five distinct colours have been used for five broad functional characters. For each of the towns, the percentage of workers under each of these five classes of economic activities to the total workers, has been calculated and according to the percentage value, the functional character of towns is determined. If workers under one of the occupations form 40 per cent of the total workers or above, then it will be a mono-functional town, e.g., primary activity town or industrial town. If the percentage figure of one occupation is less than 40 per cent, the next predominant occupation is taken into account, so that their total comes to 60 per cent or above. Such town is classified as a bi-functional town, e.g., primary activity-cum-industry or service-cum-industry town. If the total of two occupations does not reach 60 per cent, then the third predominant occupation is taken into account and such a town is termed as multi-functional town, e.g., service-cum-primary activity-cum-industrial town or transport-cum-commercial-cum-service town. Circle with one colour shows one predominant function; circle with two colours shows two predominant functions and circle with three colours indicates multi-functions.

An inset map of Calcutta Industrial Region on a bigger scale is also drawn on similar lines.

Salient Features : In 1961, there are 268 class VI towns (below 5,000) in the country. Out of them, 182 are mono-functional, 58 bi-functional and 28 multi-functional towns. Out of the 182 mono-functional towns, 72 are primary activity towns, 84 are service towns, 8 are trade and commerce towns,

16 are industrial towns and only 2 are transport towns.

Among mono-functional towns, 84 service towns rank first followed by primary activity towns 72 in numerical strength. More than one-third of the service towns in the country are concentrated in the North-Western Himalayas. They lie in a belt, stretching for about 700 kms. from the Kashmir Himalaya to the Kumaun Himalaya. A few service towns are visible in the western Karnataka Plateau in Mysore. Other service centres are dispersed in the eastern part of the country, (West Bengal 6; Bihar 4; Assam 3 and Orissa 2). Some service towns also lie in the Maharashtra Plateau.

Out of 72 primary activity towns, 18 are agglomerated in the southern Karnataka Plateau of Mysore, 11 in the mountainous part of Jammu and Kashmir, 9 in Madhya Pradesh, 7 each in Madras, Maharashtra and Punjab, 6 in Gujarat, 4 in Goa, Daman & Diu and 1 each in Andhra Pradesh, Bihar and Rajasthan.

There are 16 industrial towns in the country of which 9 are in Madras, 4 in Mysore and 1 each in Andhra Pradesh, Assam and West Bengal.

Compared to the first two types of mono-functional towns, the trade and commerce towns are few, i.e., 8 in number. Majority of them are located in the Northern part of the country. Out of these 8 towns, 5 are in the southern Punjab Plain, 2 in Assam and 1 in Rajasthan.

There are two transport towns of class VI category—one each in Punjab and West Bengal.

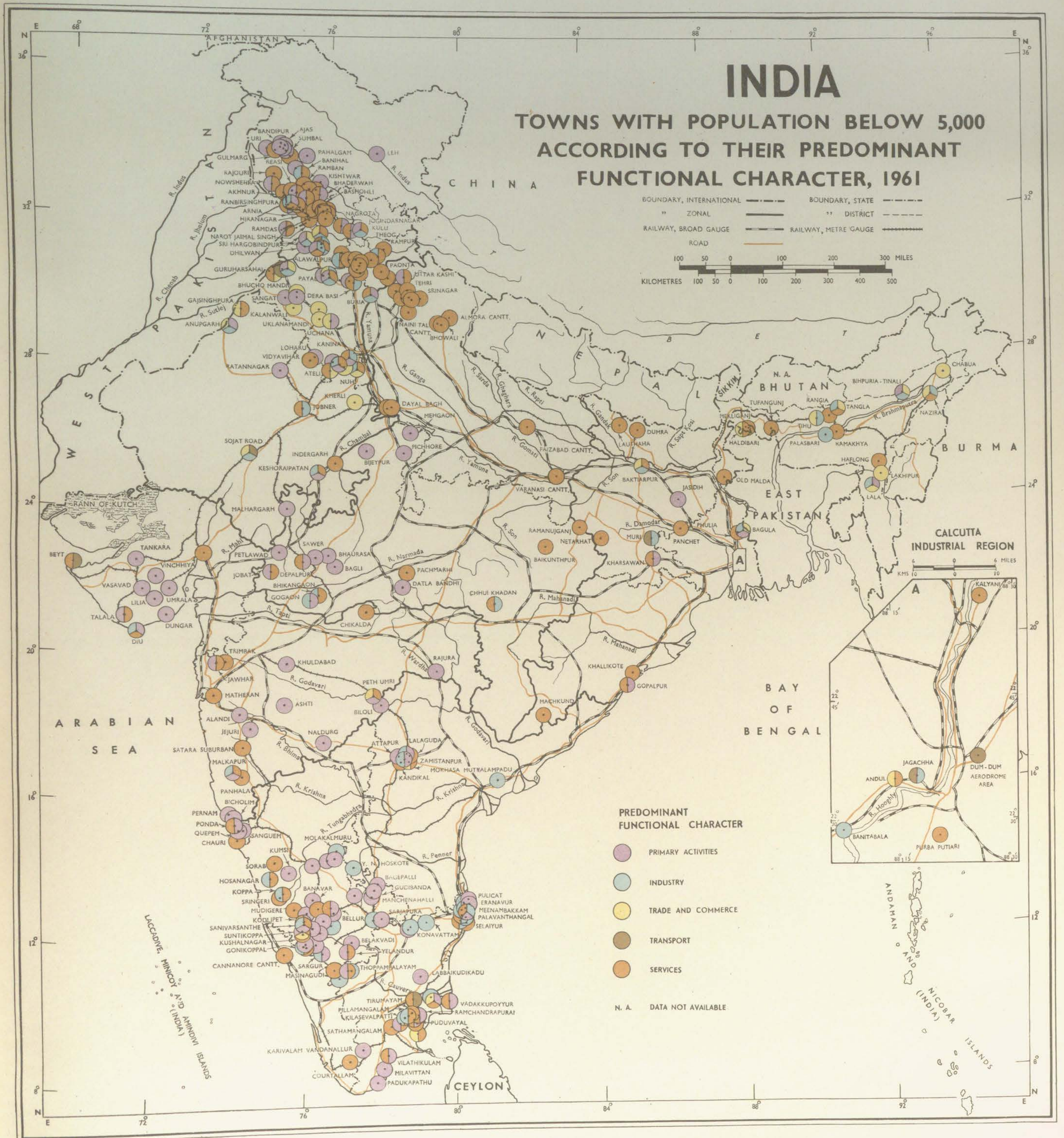
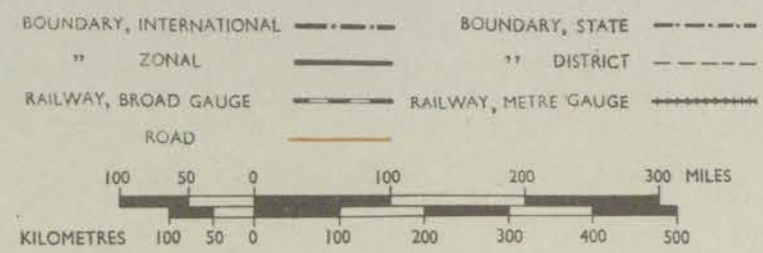
Fifty eight towns are bi-functional in character, the majority of them are primary activity-cum-service towns. One cluster of bi-functional towns is seen in the north-western mountainous part of the country. About nineteen bi-functional towns lie in this region. Another small cluster of such towns may be seen in the district of Ramanathapuram in Madras. The remaining towns are sporadic in distribution.

Twenty eight towns are multi-functional in character, of which 14 lie in the north-western part, covering the Punjab Hills and Plain with 11 and Rajasthan 3. The rest are distributed as 4 in Assam, 2 each in Madras, Maharashtra & Mysore and 1 each in the States of Bihar, Jammu & Kashmir, West Bengal and the Union Territory of Goa, Daman and Diu. There is no multi-functional town in other States and Union Territories.

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

INDIA

TOWNS WITH POPULATION BELOW 5,000
ACCORDING TO THEIR PREDOMINANT
FUNCTIONAL CHARACTER, 1961



M I G R A T I O N

IMMIGRANTS (RESIDING 1—10 YEARS)

Purpose : The map shows two features : (i) Total migrants in each of the States/Union Territories residing there for 1 to 10 years, (ii) the break-up of these migrants according to the States/Union Territories from where they have migrated.

Method : The total in-migrants in each State/Union Territory are represented by circles proportionate to the size of the population who migrated from other States and Union Territories and resided for 1 to 10 years. The percentage of migrants from each State/Union Territory is shown by proportionate segments in the circle. The size of the migrants from a State/Union Territory is shown by arrows of thickness proportionate to the total migrants and directed towards the States/Union Territories to which they have migrated. For each of the States/Union Territories, the proportion of in-migrants to total population is calculated. The data thus obtained, are grouped into five ranges; three above, one nearer to and one below the National Average (3.00). Five colours have been used for background shading. The sectors showing the share of migrants from different States/Union Territories are shown by different types of hatchings, but the colour used for hatching is according to the zone from which the migrants have come.

Salient Features : 13.14 million people were involved in inter-state movement during 1951-61 and their duration of stay in the place of enumeration was for 1 to 10 years. West Bengal shares by far the highest number of migrants (3.17 million) followed by Maharashtra (1.58 million), Punjab (1.17 million), Madhya Pradesh (1.03 million), Delhi (0.89 million), Uttar Pradesh (0.83 million), Mysore (0.72 million), Assam (0.62 million) and Bihar (0.55 million).

The percentage of in-migrants (whose duration of residence is 1 to 10 years) to total population is highest in North-East Frontier Agency (74.27%) followed by Andaman and Nicobar Islands (43.77%), Delhi (33.52%), Tripura (24.51%), Pondicherry (11.46%), Dadra and Nagar Haveli (10.56%), West Bengal (9.07%), Punjab (5.75%), Assam (5.21%), Himachal Pradesh (4.38%) and Maharashtra (3.99%). In N.E.F.A., Pondicherry and Dadra and Nagar Haveli, the proportion of migrants is high due to a low base of population.

The proportion of in-migrants to total population in nine States/Union Territories (Andhra Pradesh, Bihar, Jammu and Kashmir, Kerala, Madras, Orissa, Uttar Pradesh, Laccadive, Minicoy & Amindivi Islands and Manipur) is quite low (below 2.00%). This is partly due to low influx of migrants and partly to a large base of population.

Of the total in-migrants to West Bengal, the highest percentage is drawn from East Pakistan (58.18%) followed by Bihar (24.63%) and Uttar Pradesh (6.51%). The very high influx of displaced persons from East Pakistan has put West Bengal in the forefront among the States in the share of migrants. The progress in industries and urbanization has also imparted a 'pull factor' to the State.

Of the total migrants to Maharashtra, the highest percentage is drawn from Gujarat State (17.59%) followed by Mysore (16.47%), Uttar Pradesh (16.38%), Andhra Pradesh (11.53%) and from abroad (10.84%). The movement of migrants (in number) to this State is attributed to its industrial progress and urbanisation.

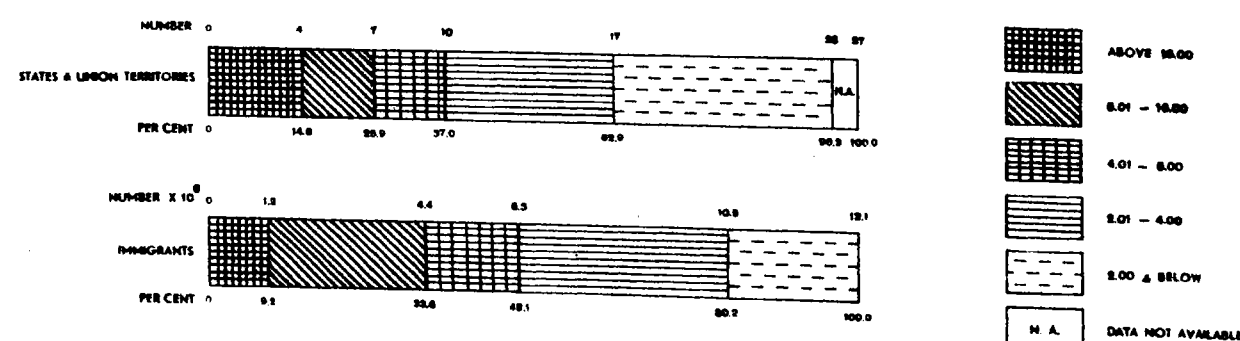
The State of Punjab which ranks third in receiving migrants shows the highest percentage of its migrants (58.86%) arriving from West Pakistan followed by Uttar Pradesh (16.56%) and Rajasthan (8.88%). The partition of the country coupled with progress in industrialization has resulted in a fairly substantial proportion of its population (5.75%) being made up of migrants. The mobility of population from Pakistan is very high in the States/Union Territories of Tripura (94.68%), Assam (47.33%), Jammu & Kashmir (39.92%), Nagaland (29.14%), N.E.F.A. (26.87%) and Manipur (23.49%).

The movement of population from one State to another is largely oriented towards highly industrialized areas, service centres or market centres offering employment opportunities to the migrants. These are the States of West Bengal (with the industrial belts in the Hooghly and Damodar Valley Regions), Maharashtra (on account of industrial development in Greater Bombay and Poona), Punjab (with a ring of industrial towns along the railway connecting Amritsar and Delhi), Assam (with tea plantations) and Mysore (with an industrial complex around Bangalore).

Sl. No.	State/Union Territory				Percentage of immigrants to total population
1	2				3
	INDIA				3.00*
	STATES				
1	Andhra Pradesh	...	...	...	1.04
2	Assam	...	...	...	5.21
3	Bihar	...	...	...	1.18
4	Gujarat	...	...	...	2.14
5	Jammu and Kashmir	...	...	...	1.21
6	Kerala	...	...	...	0.96
7	Madhya Pradesh	...	...	...	3.19
8	Madras	...	...	...	1.27
9	Maharashtra	...	...	...	3.99
10	Mysore	...	...	...	3.07
11	Orissa	...	...	...	1.20
12	Punjab	...	...	...	5.75
13	Rajasthan	...	...	...	2.21
14	Uttar Pradesh	...	...	...	1.13
15	West Bengal	...	...	...	9.07
	UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	...	...	...	43.77
2	Delhi	...	...	...	33.52
3	Himachal Pradesh	...	...	...	4.38
4	Laccadive, Minicoy and Amindivi Islands	...	...	...	1.47
5	Manipur	...	...	...	1.73
6	Tripura	...	...	...	24.51
7	Dadra and Nagar Haveli	...	...	...	10.56
8	Goa, Daman and Diu	...	...	...	11.46
9	Pondicherry	...	...	...	74.27
10	North-East Frontier Agency	...	...	...	3.72
11	Nagaland	...	...	...	3.15
12	SIKKIM	...	...	...	

*Excludes figures for Goa, Daman and Diu and that portion of N.E.F.A., where All-India Census schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-C (iii) - Migration Tables.

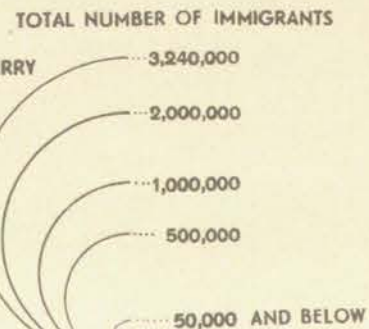
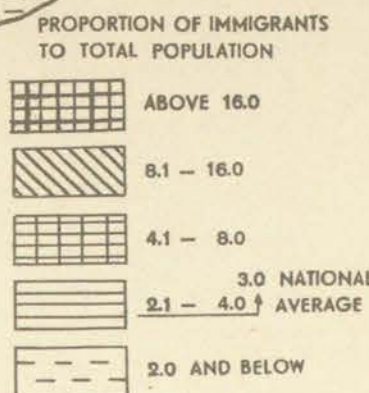
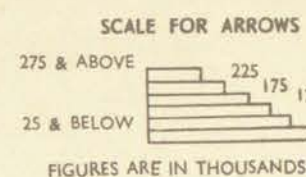
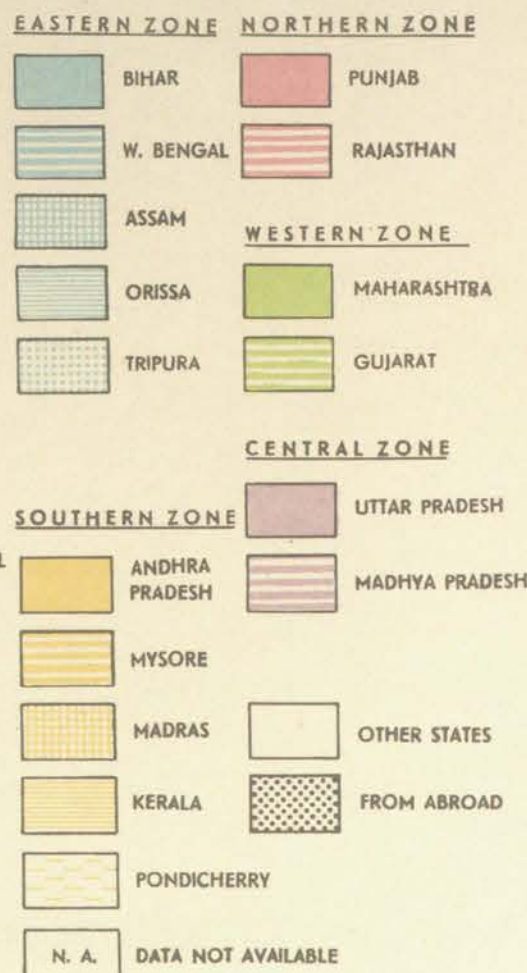
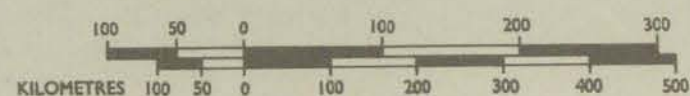


INDIA

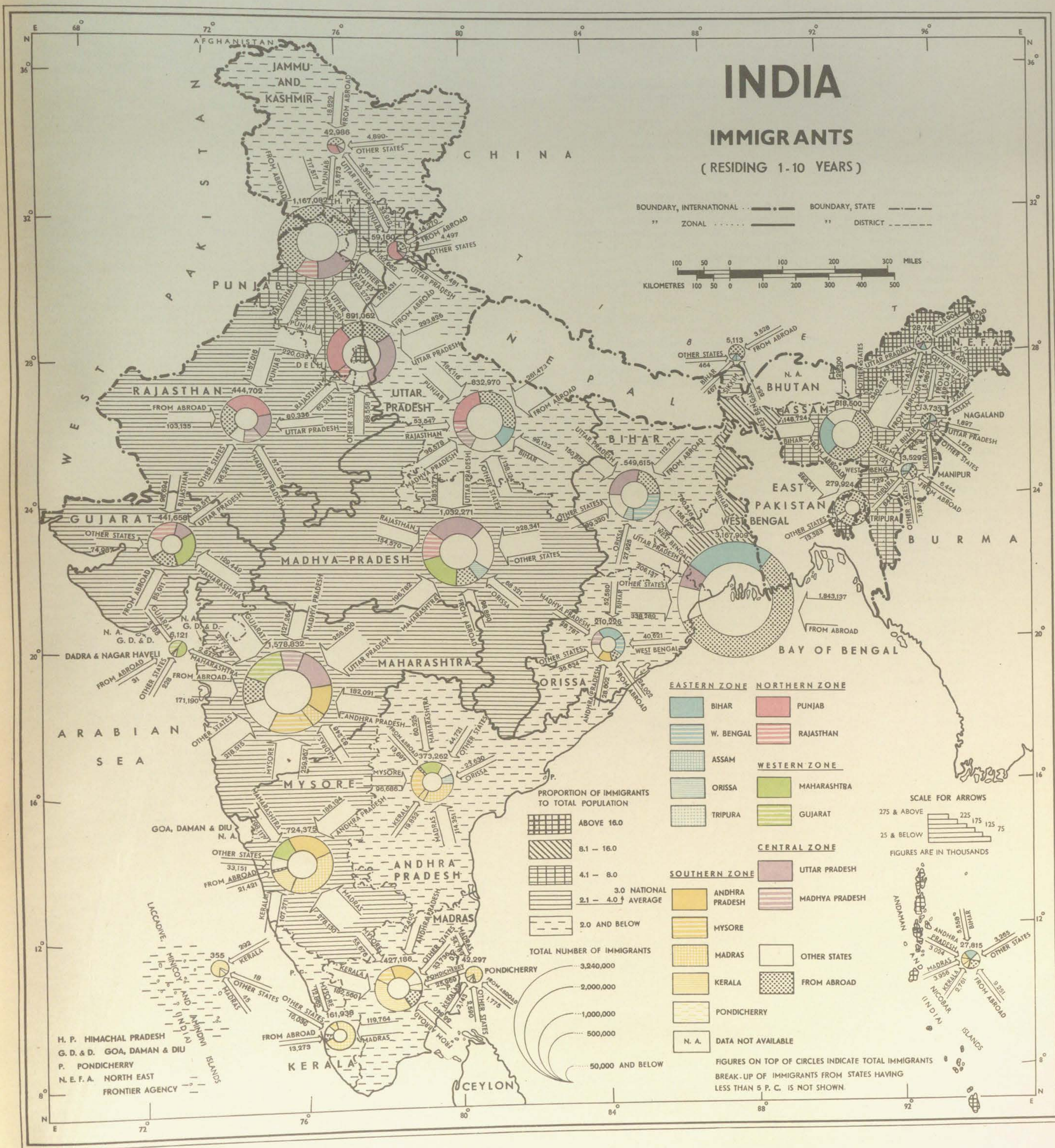
IMMIGRANTS

(RESIDING 1-10 YEARS)

BOUNDARY, INTERNATIONAL ... BOUNDARY, STATE ...
ZONAL ... DISTRICT ...



FIGURES ON TOP OF CIRCLES INDICATE TOTAL IMMIGRANTS
BREAK-UP OF IMMIGRANTS FROM STATES HAVING
LESS THAN 5 P. C. IS NOT SHOWN.



IMMIGRANTS (RESIDING MORE THAN 10 YEARS)

Purpose : This map shows two major aspects of migration :

- Total migrants in each of the States/Union Territories and residing there for more than 10 years.
- The break-up of these migrants according to the States/Union Territories and outside countries from where they have migrated.

Method : The total in-migrants in each State/Union Territory are represented by circles proportionate to the size of the population who migrated from other States/Union Territories and other countries and resided for more than 10 years. The percentage share of migrants from each State/Union Territory is shown by proportionate sectors in the circle. The size of the migrants from a State/Union Territory is shown by arrows with thickness proportionate to the total migrants and directed towards the receiving States/Union Territories. For each of the States/Union Territories, the proportion of in-migrants to total population is calculated. The data thus obtained are grouped into five ranges; two above, one nearer to and two below the national average (2.50). Five different hatchings have been used for background shading. The sectors showing the share of migrants from different States/Union Territories are shown by different types of hatching, but the colour used for hatching is according to the Zone from which the migrants have come.

Salient Features : In all, 10.95 million people in the country were involved in the movement from the States/Union Territories and other countries and whose duration of stay in the place of enumeration was more than 10 years. West Bengal shares by far the largest number of migrants of this category (2.32 million) followed by Punjab (1.71 million), Maharashtra (1.33 million), Uttar Pradesh (0.82 million), Assam (0.74 million), Madhya Pradesh (0.65 million) and Delhi (0.61 million).

The percentage of in-migrants (residing more than 10 years) to total population is the highest in Delhi (22.85%) followed by Tripura (12.07%), Pondicherry (10.91%), Punjab (8.44%), Dadra and Nagar Haveli (6.69%), West Bengal (6.63%), Andaman & Nicobar Islands (6.56%) and Assam (6.19%). The high proportion of in-migrants to total population in Delhi, Tripura, Punjab, West Bengal, Andaman & Nicobar Islands and Assam is largely due to a very high influx of displaced persons from Pakistan. In Pondicherry and Dadra and

Nagar Haveli, the proportion of immigrants to total population is high due to a low base of population. The proportion of immigrants to total population in twelve States/Union Territories (Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madras, Mysore, Orissa, Uttar Pradesh, Laccadive, Minicoy and Amindivi Islands, Manipur and Nagaland) is quite low (below 2.00%). This is due to a low influx of population and a large population base.

Of the total migrants (2.32 million) to West Bengal, the highest percentage is drawn from other countries (60.55%) followed by Bihar (24.61%) and Uttar Pradesh (6.10%). The very high influx of displaced persons from East Pakistan has put West Bengal in the forefront among the States in the share of migrants. The progress in industries and urbanization has also imparted a 'pull factor' to the State.

Of the total migrants to Punjab, the highest percentage is drawn from other countries (84.68%) followed by Rajasthan (5.87%) and Uttar Pradesh (5.47%). The very high influx of displaced persons from West Pakistan due to the partitioning of the country has registered a high proportion of its population (8.44%) as migrants.

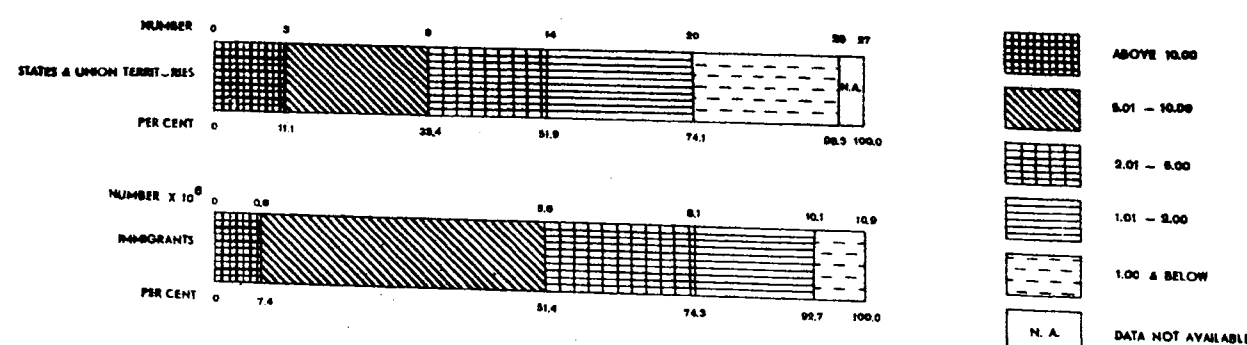
The State of Maharashtra which ranks third in receiving migrants shares the highest percentage of its migrants (22.38%) arriving from Gujarat State followed by other countries (21.69%), Mysore (15.66%) and Uttar Pradesh (12.31%). The movement of migrants in large number to this State may also be attributed to its progress in industrialization and urbanisation. Migration from other countries (mainly from Pakistan) is very high in the States/Union Territories of Assam (71.17%), Jammu & Kashmir (83.61%), Rajasthan (43.85%), Uttar Pradesh (34.71%), Delhi (49.46%), Tripura (94.85%) and Nagaland (47.61%).

The movement of population from one State to another is largely oriented towards highly industrialised areas, service centres or market centres offering employment opportunities to the migrants. These are the States of West Bengal (with industrial belts in Hooghly and Damodar Valley Regions), Punjab (with a ring of industrial towns along the railway connecting Amritsar and Delhi), Maharashtra (with industrial magnets in Greater Bombay and Poona), Assam (with tea plantation farming), Madhya Pradesh (with the heavy electrical industries at Bhopal) and Mysore (with an industrial complex around Bangalore).

Sl. No.	State/Union Territory	Percentage of Immigrants to total population
1	2	3
INDIA*		2.50
STATES		
1	Andhra Pradesh	0.65
2	Assam	6.19
3	Bihar	1.18
4	Gujarat	1.25
5	Jammu and Kashmir	1.33
6	Kerala	0.68
7	Madhya Pradesh	2.01
8	Madras	0.78
9	Maharashtra	3.36
10	Mysore	1.60
11	Orissa	0.98
12	Punjab	8.44
13	Rajasthan	2.69
14	Uttar Pradesh	1.11
15	West Bengal	6.63
UNION TERRITORIES AND OTHER AREAS		
1	Andaman and Nicobar Islands	6.56
2	Delhi	22.85
3	Himachal Pradesh	2.28
4	Laccadive, Minicoy and Amindivi Islands	0.51
5	Manipur	0.62
6	Tripura	12.07
7	Dadra and Nagar Haveli	6.69
8	Goa, Daman and Diu	10.91
9	Pondicherry	5.27
10	North-East Frontier Agency	1.04
11	Nagaland	3.93
12	SIKKIM	

* Excludes information for Goa, Daman and Diu and that portion of N.E.F.A., where all-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, Part II-C(iii)—Migration Tables.

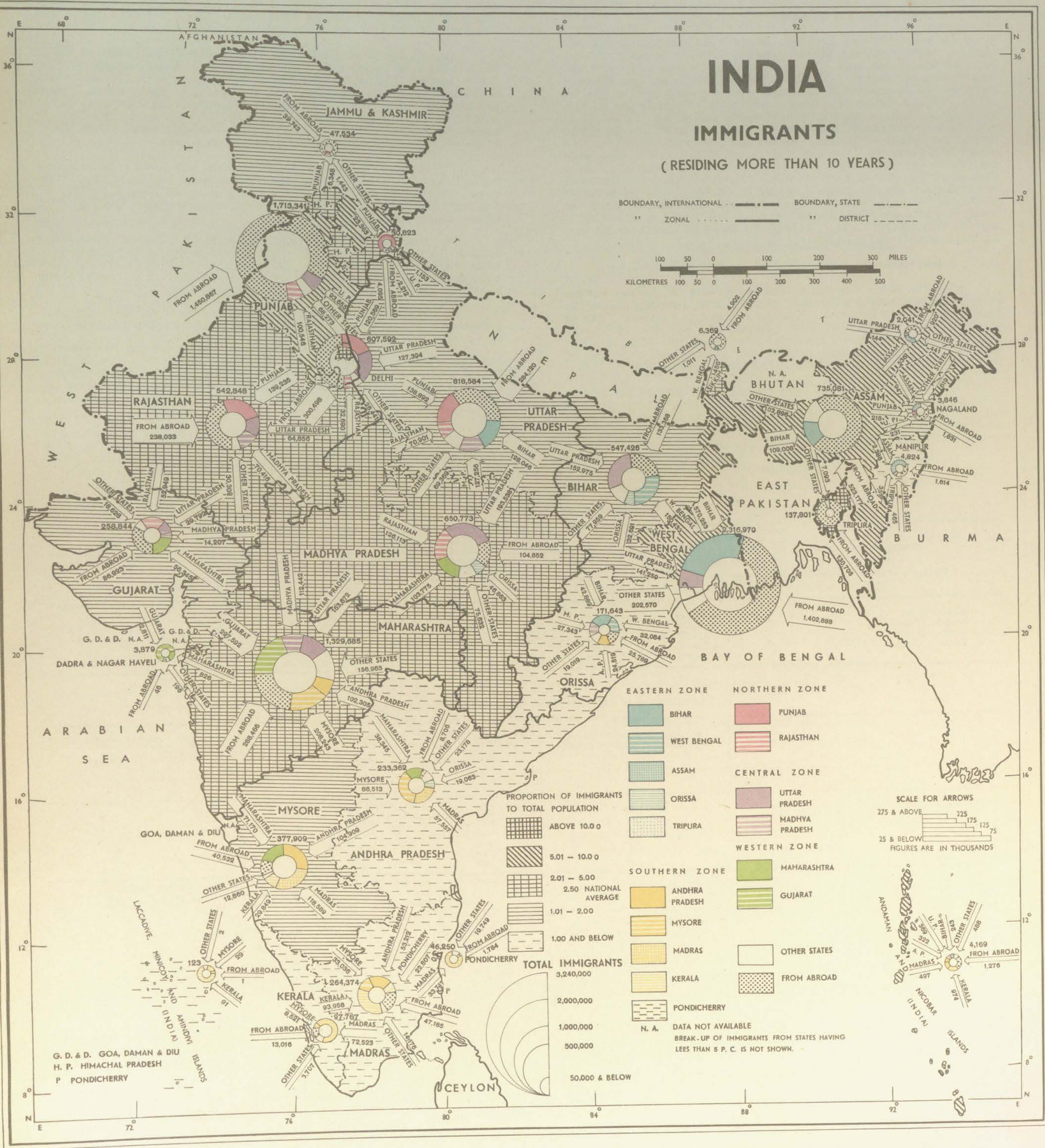
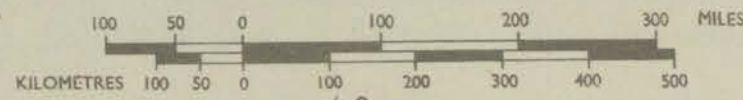


INDIA

IMMIGRANTS

(RESIDING MORE THAN 10 YEARS)

BOUNDARY, INTERNATIONAL ——— BOUNDARY, STATE ———
ZONAL ——— DISTRICT ———



INTERNAL MIGRATION, 1951—61

Purpose : The internal migration of population during the decade 1951—61 has been depicted in the map.

Method : The data have been processed for in-migration and out-migration of the population for the States and the Union Territory of Delhi. These are then grouped under six categories—three showing net increase and three showing net decrease. The States/Union Territory are shaded accordingly by six different grades of hatchings. Circles proportionate to the net migrants for each State and the Union Territory of Delhi are inserted within the boundary of the mapping unit, solid circles having been used for States with positive net balance of migrants and broken circles for states with negative net balance of migrants. Figures inside the circles indicate the total number of net migrants. Two sectors are cut off in each circle to show urban and rural components of migrants, the urban sector being differentiated by a black screen from the rural one which is left blank. Further, the inter-state flow of migrants are also shown by arrows, the thickness being proportionate to the size of migrants divided into urban and rural parts of which the former is shaded and figures against the arrows indicate the total number of migrants from different States. The territories for which data have not been taken into account are left blank.

Salient Features : An analysis of the map reveals the following :

(1) The Indian population concurrently with its natural increase showed significant mobility within and across the State boundary in the last decade, but intra-state movement far exceeded inter-state movement. During the decade 1951-61, of the 65.9 million migrants, 57.2 million or 87% were intra-state migrants (Table I). The table further reveals that 72.8% of these intra-state migrants moved from rural to rural areas, whilst in the case of inter-state migrants rural to urban (35.2%) movement predominated.

(2) There has been heavy in-migration showing positive net balance of migrants to five States viz., West Bengal, Maharashtra, Madhya Pradesh, Mysore, Assam and the Union Territory of Delhi. Except for Assam, immigration to these States may have been stimulated by the progress in urbanisation and industrialisation.

(3) Within a period of 10 years about 0.98 million of migrants were

added to the 1951 population of West Bengal. About 82.6% came from the rural areas of other States notably Bihar, Orissa, Uttar Pradesh, Punjab and Rajasthan and 64.0% of them moved towards urban areas.

(4) During the decade 1951-61, about 1.40 million migrants moved to Maharashtra from Gujarat (19.7%), Mysore (18.5%), Uttar Pradesh (18.4%), Andhra Pradesh (12.9%), Madhya Pradesh (9%) and others (21.5%) and on the other hand 0.56 million migrated to other States from Maharashtra. These two counteracting movements brought a net increase of the State's population by 2.63% due to migration alone. The mobility of migrants in this State is again urban ward with 81.9% of the immigrants moving towards urban areas. 91.3% of these migrants moved from urban to urban areas.

(5) Assam ranks third in percentage share of migrants to total population. Out of 0.19 million immigrants 0.14 million come from Bihar State alone. The migration behaviour of this State is quite different from that of West Bengal and Maharashtra States as the majority of migrants (nearly 70%) is from rural to rural areas.

(6) About 0.93 million migrants entered Madhya Pradesh from Uttar Pradesh (30.6%), Maharashtra (21.1%), Rajasthan (16.6%), Orissa (7.3%), Bihar (0.41%) and others (21.3%). The movement of immigrants in this State was more towards urban areas (53.8%) than towards rural areas (46.2%) but most of the migrants came from rural areas (67.4 per cent)

(7) In the last decade, 0.25 million migrants were added to the 1951 population of Mysore State. The movement was largely rural to rural (61.8%)

(8) The Union Territory of Delhi is conspicuous among the receiving States and Union Territories by its very high decennial growth rate (52.4%), most of which is attributable to migration. About 62.5% of the immigrants came from the rural areas and 37.5% from urban areas. The three big contributing States are Uttar Pradesh (0.29 million); Punjab (0.22 million) and Rajasthan (0.06 million).

(9) Outflows exceed inflows (negative net balance of migrants) in nine States of which Uttar Pradesh (1,017,000) ranks first followed by Bihar (725,000), Madras (367,000), Punjab (352,000), Kerala (300,000) and Rajasthan (287,000). Their characteristics are shown in Table II.

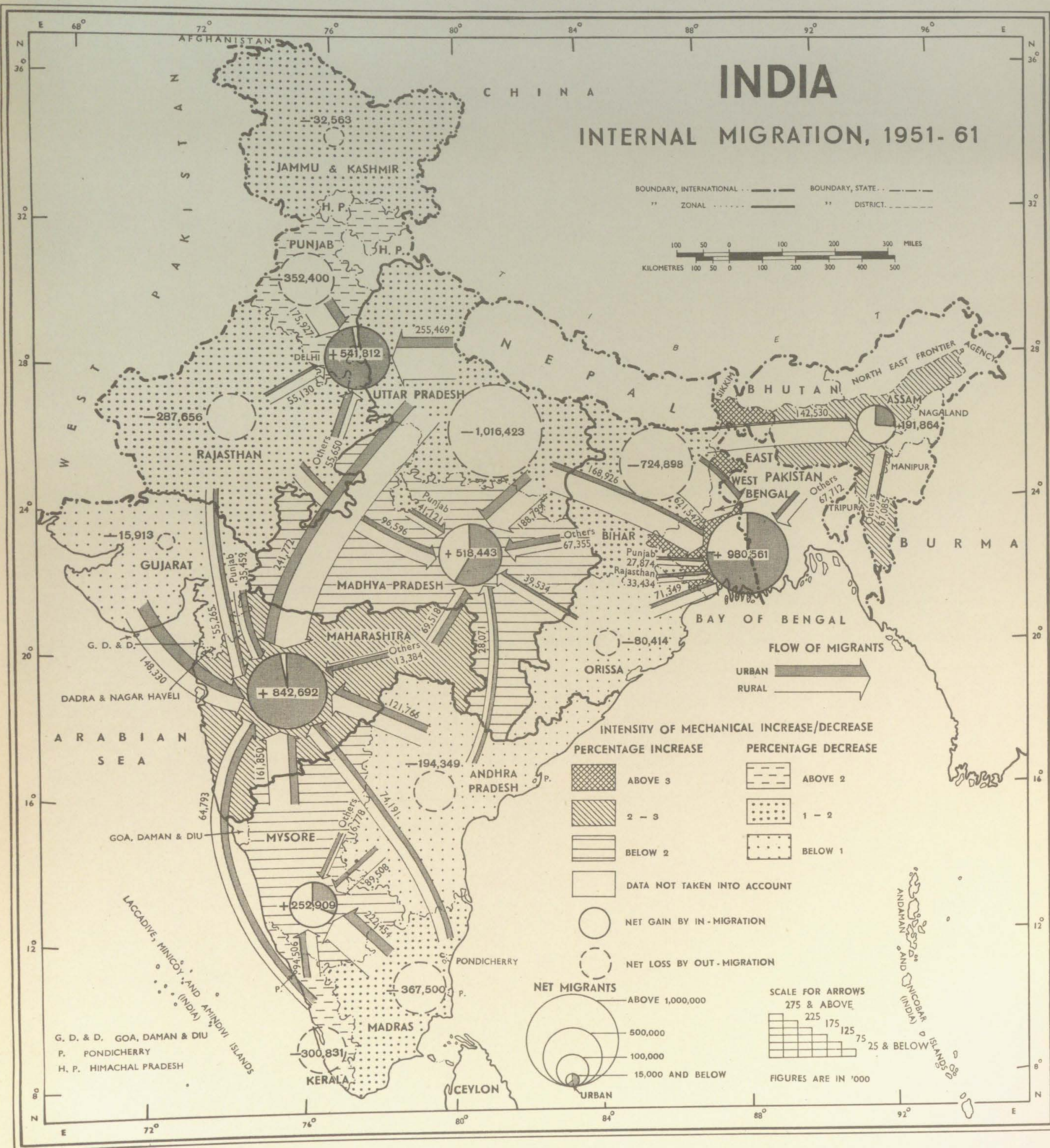
TABLE I
Movements of Total Migrants 1951-61

Sl. No.	Direction of Movement	Total		Intra-State Movement		Inter-State Movement	
		Migrants	Percentage Share	Migrants	Percentage Share	Migrants	Percentage Share
1	2	3	4	5	6	7	8
1	Rural to Rural	44,541,168	67.6	41,639,671	72.7	2,901,497	33.4
2	Rural to Urban	11,620,893	17.6	8,565,840	15.0	3,055,053	35.2
3	Urban to Rural	3,004,903	4.6	2,553,381	4.5	451,522	5.2
4	Urban to Urban	6,759,873	10.2	4,480,506	7.8	2,279,367	26.2
		65,926,837	100.0	57,239,398	100.0	8,687,439	100.0

TABLE II
Characteristics of Emigrants from Urban & Rural Areas

Sl. No.	State	Intensity of net out migration (Percentage of net out-migrants to the total Population)	Percentage of net out-migrants moving from		Percentage of net out-migrants moving towards	
			Rural	Urban	Rural	Urban
1	2	3	4	5	6	7
1	Uttar Pradesh	1.36	72.8	27.2	28.2	71.8
2	Bihar	1.54	86.6	13.4	46.9	53.1
3	Madras	1.08	63.1	36.9	41.0	59.0
4	Punjab	1.71	69.1	30.9	36.9	63.1
5	Kerala	1.75	59.4	40.6	27.6	72.4
6	Rajasthan	1.41	74.4	25.6	41.2	58.8

Source : 1 Census of India, 1961, Vol. I, India, Part II-C(iii) and (iv)—Migration Tables, 1961.
2 Sen Gupta, P. and Sdasyuk, Galina—"Economic Regionalization of India, Problems and Approaches", Monograph Series, Vol. I, Census of India, 1961.



ECONOMIC ASPECTS

LAND UTILISATION, 1960-61

Purpose : This map shows the pattern of land-use in each of the States/Union Territories of India as in 1960-61.

Method : The land-use of each State/Union Territory is classified into two types—(i) land available for agriculture and (ii) land not available for agriculture. Lands available for agriculture are further classified according to uses, such as—(a) net area sown, (b) current fallow and other fallows (c) culturable wastes and (d) permanent pastures and grazing lands. Net area sown represents land sown with crops; current fallow indicates arable land which is kept fallow during the current year. Other fallow lands are those which are taken up for cultivation, but are temporarily out of cultivation for a period of one year or less. Culturable wastes represents all lands available for cultivation whether they are taken up for cultivation or abandoned after a few years for one reason or the other.

Land put to non-agricultural use has been classified into 3 categories—(a) forests; (b) barren and unculturable wastes and (c) land put to non-agricultural uses (for settlements and communications etc.).

The pattern of land-use is shown by pie-diagrams. Two contiguous circles are drawn—one proportionate to the area available for agriculture shown in green colour and the other in black colour proportionate to the area not available for agriculture in each State/Union Territory. Each circle is then divided into sectors proportionate to their respective uses as shown in the index of the map.

Areas below 500 acres under various uses are not considered.

Salient Features : In 1960-61 the total area available for agricultural and non-agricultural uses is 480·97 and 257·77 million acres accounting for nearly 65% and 35% respectively of the total area of India (738·75 million acres). Net area sown forms about 70% of the total area under agriculture and forests account for 53% of total area under non-agricultural uses.

Land available for Agriculture : Except in the States of Assam, Jammu & Kashmir and the Union Territories of Andaman & Nicobar Islands, Manipur and Tripura, everywhere in the country the area available for agricultural uses is higher than that for non-agricultural uses. In Assam (including Nagaland and N.E.F.A.) and Jammu & Kashmir, non-agricultural area is nearly three times that of the agricultural area and in the Union Territories of Andaman & Nicobar Islands it is forty times and in Manipur it is ten times higher.

The proportion of net area sown to the total area available for agricultural uses is extraordinarily high in Northern Plain. The State of West Bengal has 94·08% of its arable land as sown, Assam 88·07%, Punjab 86·68% and Uttar Pradesh 85·30%. Other than the Northern Plain, Kerala, Manipur and Laccadive, Minicoy & Amindivi Islands show almost all their cultivable areas as net area sown. The lowest proportion of net area sown is in the Union Territory of Himachal Pradesh (20·42%).

The proportion of fallow land to the total area suited for agricultural uses is conspicuously high in the States of Andhra Pradesh (19·42%), Bihar (19·24%), Rajasthan (19·15%), Madras (17·93%) and Orissa (12·89%), whereas that of culturable waste lands is high in the States of Rajasthan (25·54%), Orissa (15·02%), Jammu & Kashmir (13·61%) and Madhya Pradesh (12·48%).

Permanent pastures and grazing ground occupy only 7·20% of the agricultural area of the country. Nevertheless, its proportion to the agricultural area is very high in Himachal Pradesh (74·94%), while in other States and Union Territories it is significantly low—hardly exceeding 15%.

Area not available for Agriculture : About 53% of India's non-agricultural land (257·77 million acres) is covered with forests. A very high concentration of forests is in the hill areas of the North and the Peninsular plateau. Andaman & Nicobar Islands show the highest proportion of non-agricultural land (98·95%) under forests followed by Tripura (93·68%), Jammu & Kashmir (85·10%), Madhya Pradesh (76·66%), Kerala (74·78%), Maharashtra (68·45%), Mysore (60·97%) and Himachal Pradesh (59·91%).

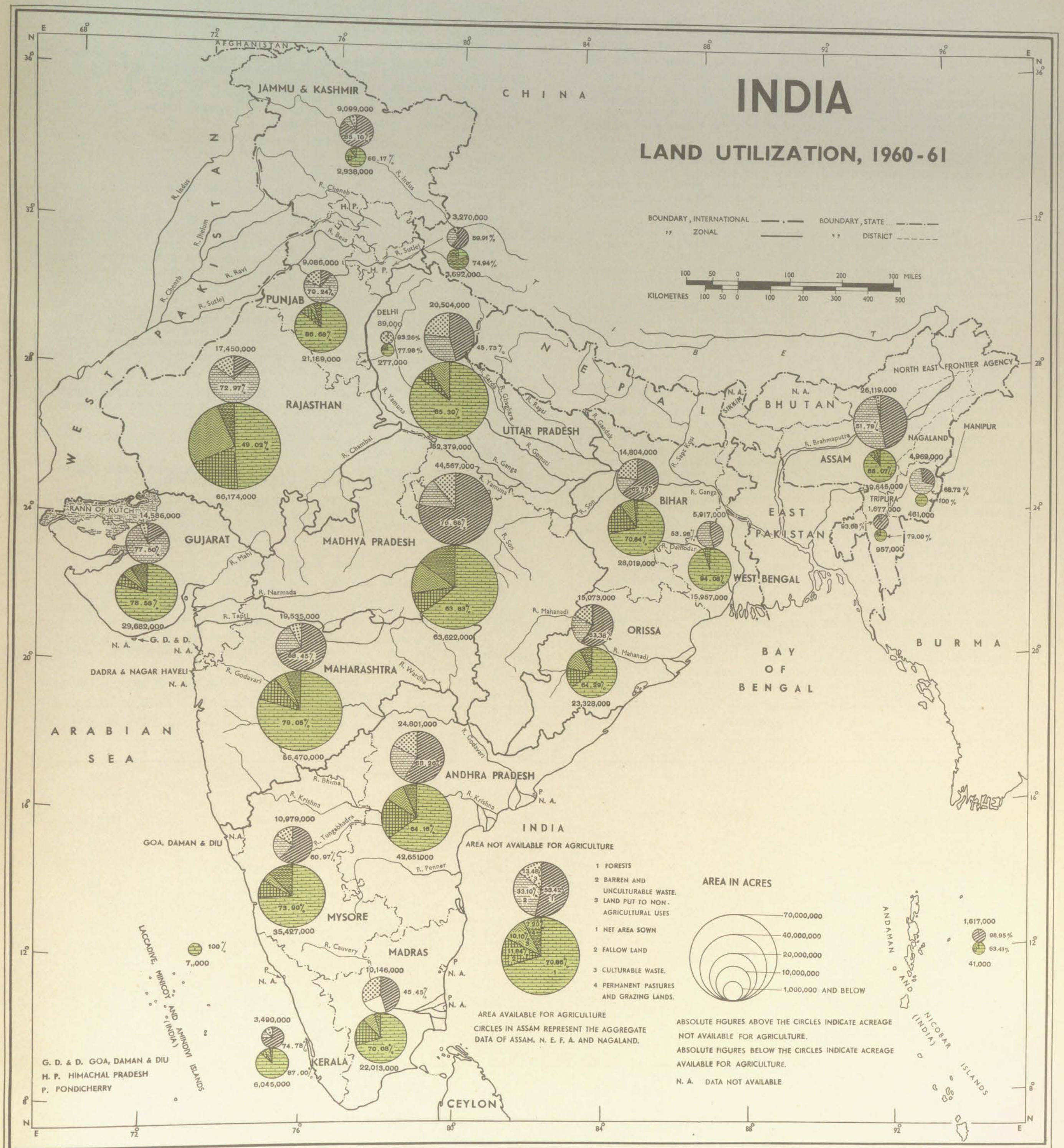
Barren and unculturable waste lands account for 33·11% of the total non-agricultural area of India. They are usually found in the arid and semi-arid tracts of Rajasthan and Gujarat and also in the highly rugged terrain in the Northern Himalayas and Eastern Hills. The States of Gujarat and Rajasthan have 78% and 73% respectively of their lands as barren and unculturable waste due to aridity. Punjab shows 70%, Manipur 69%, West Bengal 54% and Assam 52% of its non-agricultural land as barren and unculturable waste land because of rugged relief and inclement climate.

The above analysis brings out the fact that the agricultural use of land is intensive in the Northern Plain, specially in the Hooghly delta and the irrigated plain of Punjab and Uttar Pradesh. All along the plain, the proportion of net area sown to the total arable land exceeds 80%. In the cotton-growing tract of Western India comprising the States of Gujarat and Maharashtra and Karnataka Region, the proportion of land put to agricultural uses is also high ranging between 70% and 80%.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi.

INDIA

LAND UTILIZATION, 1960-61



INTENSITY OF CROPPING, 1960-61

Purpose : This map exhibits the districtwise intensity of cropping in India during 1960-61.

Method : Intensity of cropping signifies the farming practices for extracting the maximum output from a particular patch of land by growing crops more than once in a year. The intensity-index of cropping is calculated by working out $\frac{\text{Gross Area Sown}}{\text{Net Area Sown}} \times 100$ for each district. The indices thus obtained are grouped into six ranges; one above, one nearer to and four below the National Average (114.67) as shown in the index of the map. According to these groupings, all the districts are shaded from high to low intensity by choropleth method. Entirely urban areas are left blank on the map and are indicated by abbreviation 'E.U.'. The areas for which data are not available are shown as 'N.A.'.

Salient Features : During 1960-61, the area sown more than once for the country is 48.33 million acres. Out of which nearly 29.70 million acres or 61.4% fall in the States of Uttar Pradesh, Bihar, Punjab and Madhya Pradesh. Other States having a high acreage under double-cropping are Kerala, Madras, Andhra Pradesh and West Bengal.

The intensity of cropping depends on the conditions of water supply. In India, where rainfall is seasonal and irrigational facilities are still poor, the intensity of cropping is bound to be low in most of the districts as is evident from the map. The regions with higher intensity-index mostly correspond with the densely populated flood plains, deltas and coastal plains which are benefitted either by irrigational facilities from canals, wells and tubewells or by sufficient rainfall. The districts lying in the Indo-Ganga Plain, the Lower Assam Valley, the east-coast plain and the Kerala Coast show intensity-index varying from 108.00 to 173.00. The low intensity of cropping is seen mostly in the hilly regions, desert areas and in the Peninsular Plateau where the figures vary from 100.00 to 108.00. The regional variation of the intensity of cropping is as follows :

(a) *The high intensity regions :*

1. The hill districts of Himachal Pradesh and Jammu & Kashmir record the highest intensity-index (142.05 average) of the country. It has an acreage of about 0.75 million under double-cropping accounting for about 1.66% of India's total double-cropped land. This area lies between the 100 cms. and 200 cms. isohyetal lines. Besides cereal crops of wheat, maize and rice, it grows vegetables, such as, potatoes, ginger etc. twice a year. Since the arable lands in these mountainous areas are limited, the cultivators have to sustain themselves by growing as much crops as they can raise from a piece of land by practising intensive cultivation.

2. The eastern part of Uttar Pradesh and Northern Bihar have an intensity-index of 134.01. It has nearly 11.20 million acres under double-cropping (24.81%). This area has an average annual rainfall between 100 cms. and 200 cms., so seasonal irrigation is needed for intensive farming. Usually, crops are irrigated by wells, tubewells and canals. Rice, sugarcane, wheat and jute are the main crops in these areas.

3. The north-western part of the Great Plain (Punjab Plain and Western Ganga Plain) shows an average intensity-index of 129.12. It has the largest acreage—12.06 million of double-cropped area which accounts for 26.73% of the country's total. The major part of this area lies in the semi-arid region having annual rainfall less than 80 cms. The rainfall deficiencies are, however, compensated by irrigational practices, mostly by canals and wells. Wheat is the most important cereal produced, sugarcane and cotton are the cash crops cultivated in this region.

4. The littoral part of Kerala has an average intensity-index of 128.29 and an area of nearly 1.07 million acres is under double-cropping which accounts for 2.38% of India's total double-cropped area. The average annual rainfall in this area is above 200 cms. Rice is the main crop which is sown more than once in a year in this region. Coconut and spices are the other important products.

5. The upper Mahanadi basin and Son valley show an average intensity-index of 126.90 and its acreage under double cropping is nearly 3.34 million which accounts for 7.40% of India's double-cropped area. This area has annual rainfall of more than 100 cms. but irrigation is partly needed, since rainfall is seasonal. However, canal and well irrigation are practised. Rice, wheat and oilseeds are the main products.

6. The districts of northern part of West Bengal and Assam valley record an average intensity-index of 123.66 and about 2.80 million acres or 6.2% of the country's total are under double cropping. This area receives high rainfall (200—400 cms.) where no irrigation is necessary. Rice is the staple crop which is sown more than once. Jute and tea are the cash crops produced.

7. The coastal plain of Orissa, Andhra Pradesh and Madras States, the delta areas of Mahanadi, Krishna, Godavari and Cauvery are most intensively cropped areas in the east-coast region having an average intensity-index of 121.13 with an area of about 4.23 million acres under double cropping. The rainfall in this region varies between 60 cms. and 130 cms. so irrigation is practised in all the delta areas and varieties of crops mainly rice, groundnut, sugarcane and millets are cultivated.

8. The intensity-index is 121.11 in eastern part of Gujarat and south-eastern part of Rajasthan. Here the acreage under double cropping is 0.59 million. Rainfall varies from 60 cms. to 100 cms. In some of the areas, well irrigation is practised. Cotton, wheat and maize are mostly grown.

(b) *The low intensity areas :*

The low intensity-index may be seen in those areas which are either desert or semi-desert, where rainfall is poor, water level is low and irrigational facilities are yet to be developed.

1. The desert areas comprising the western districts of Rajasthan record the lowest intensity-index (100.00).

2. The dry Malwa Plateau and Vindhyan Ranges (south-western Madhya Pradesh) having an average intensity-index as 104.00.

3. The Maharashtra Plateau, Satpura Range, Karnataka Plateau (Mysore), Telangana Plateau (Andhra Pradesh), Eastern Ghats (Andhra Pradesh and Orissa), the North-Western Hills of Orissa and the Dandakaranya having the intensity-index ranging from 100.00 to 108.00.

4. The Central Uplands of Kathiawar and the Western Ghats.

5. The Union Territory of Manipur, the districts of Lakhimpur, Sibsagar in Upper Brahmaputra Valley and the Mizo hills district in Assam, the Ladakh and Baramulla districts in Jammu & Kashmir and the Union Territory of Andaman & Nicobar Islands and Laccadive, Minicoy & Amindivi Islands.

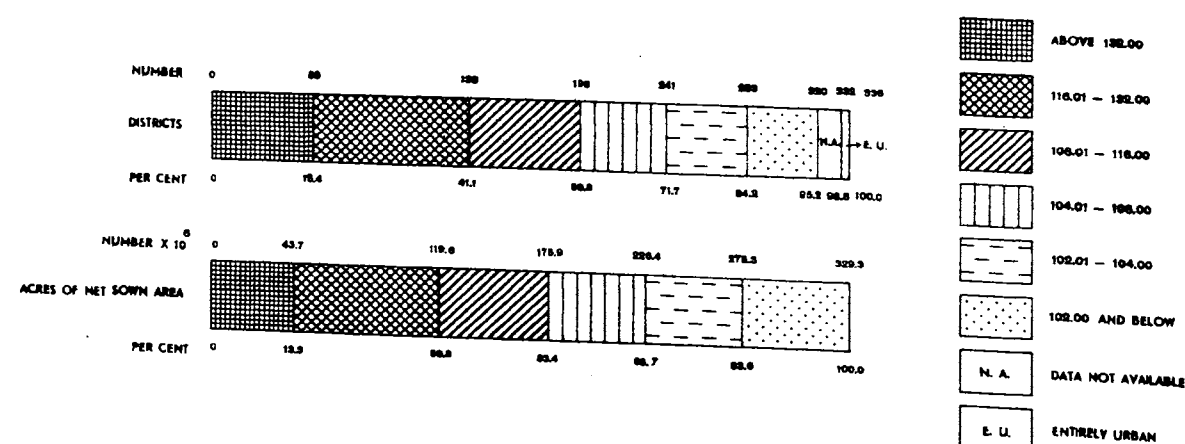
Among the regions of low intensity-index, the humid eastern hills and plateaus grow rice, while the drier plateaus and hills in the west and centre cultivate mainly millets, groundnut and cotton.

The map reveals that the intensity of cropping is in general low in India, the National Average being only 114.67.

Sl. No.	State/Union Territory	Net area sown	Area sown more than once	Total area cropped	Intensity-index
1	2	3	4	5	6
INDIA		329,268,577	48,327,275	377,595,852	114.67
STATES					
1	Andhra Pradesh	26,646,995	2,551,994	29,198,989	109.58
2	Assam	5,511,151	971,506	6,482,657	117.63
3	Bihar	19,848,253	7,597,535	27,445,788	138.28
4	Gujarat	23,220,800	915,700	24,136,500	103.94
5	Jammu and Kashmir	1,623,285	378,916	2,000,201	123.22
6	Kerala	4,753,616	1,050,527	5,804,143	122.10
7	Madhya Pradesh	39,793,894	5,165,365	44,959,259	112.98
8	Madras	14,817,736	3,271,479	18,089,215	122.08
9	Maharashtra	44,156,900	2,333,000	46,489,900	105.28
10	Mysore	25,274,582	888,369	26,162,951	103.51
11	Orissa	14,795,637	1,222,115	16,017,752	108.26
12	Punjab	18,340,413	5,707,761	24,048,174	131.12
13	Rajasthan	32,399,665	2,227,579	34,627,244	106.88
14	Uttar Pradesh	42,985,793	11,224,055	54,209,848	126.11
15	West Bengal	13,432,400	2,268,500	15,700,900	116.89
UNION TERRITORIES					
1	Andaman and Nicobar Islands	22,488	969	23,457	104.31
2	Delhi	215,986	64,434	280,420	129.83
3	Himachal Pradesh	673,604	385,829	1,059,433	157.28
4	Laccadive, Minicoy and Amindivi Islands	6,446	382	6,828	105.93
5	Manipur	226,693	10,260	236,953	104.53
6	Tripura	522,240	93,000	615,240	117.81

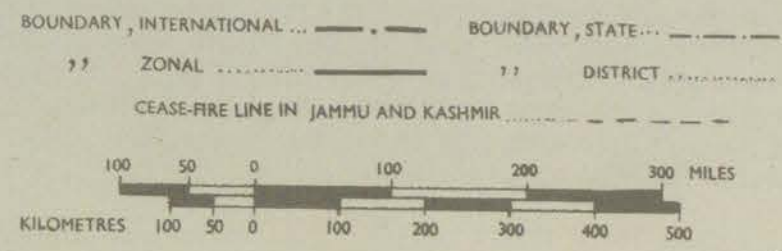
Note : Data for other Union Territories and Other Areas are not available.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi.

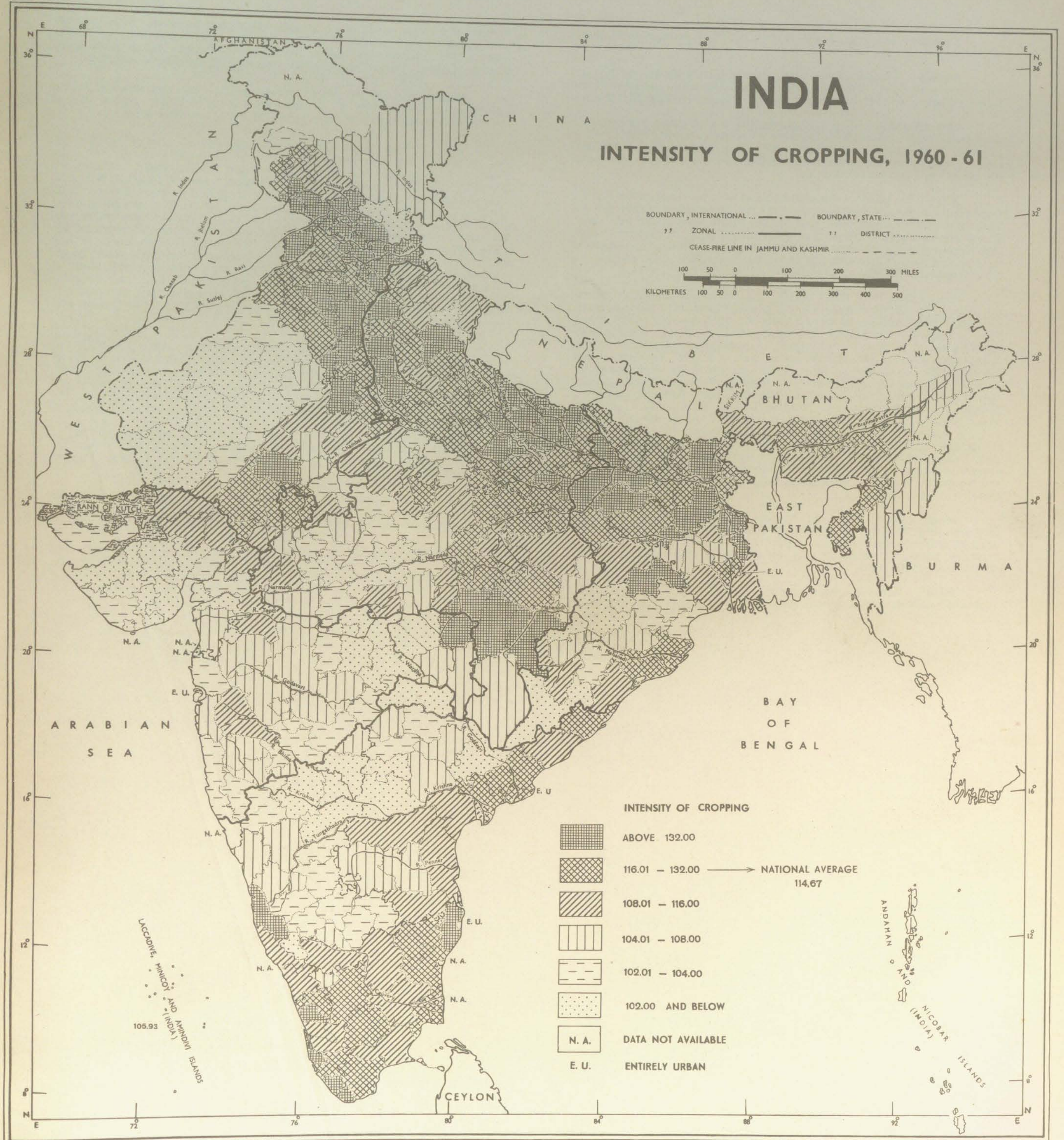
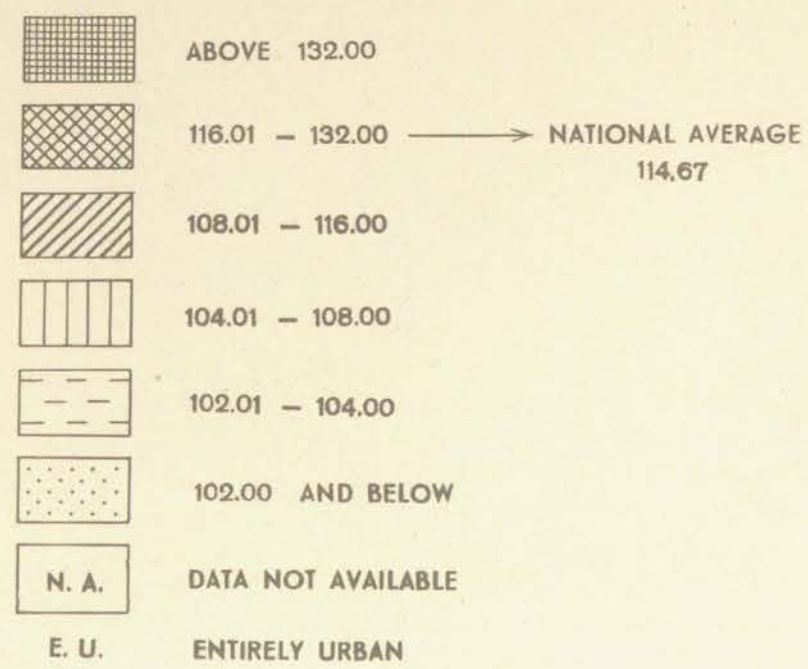


INDIA

INTENSITY OF CROPPING, 1960 - 61



INTENSITY OF CROPPING



ACREAGE UNDER MAJOR CEREALS, 1956—61
(RICE, WHEAT AND MILLETS)

Purpose : This map shows the distribution of acreage under major cereals—rice, wheat and millets in India.

Method : The districtwise acreage figures for the above cereals (average of five years from 1956-57 to 1960-61) have been taken into account and their distribution is shown by dot method, each dot representing 10,000 acres.

Salient Features : This map reveals that rice is grown mostly in the flood-plains, coastal plains and deltas where the rainfall is above 125 cms., wheat is grown in the plains or plateaus of sub-humid climate having irrigational facilities and millets are raised in poor and sandy soils in the dry Peninsular Plateau and arid and semi-arid plains.

Rice : The principal rice-growing areas without irrigation are—(i) the flood-plains of the lower Ganga valley; (ii) the Brahmaputra valley; (iii) the Bhagirathi and Mahanadi deltas and (iv) the Kerala plain in the west coast. Rice is also cultivated with irrigation in the coastal plains of the east. Other than these major regions, there are rice-growing areas of minor importance in the semi-arid plain in the north-west and in the river valleys, hills and plateaus, where irrigational facilities are available.

Among these three major cereals, rice is the most important. During the period 1956—61, the average rice acreage comes to about 82 million—nearly one-third (31·3%) of the total net area sown of India (about 262 million acres). There is a heavy concentration of rice cultivation in the Ganga Plain embracing West Bengal, Bihar and Uttar Pradesh; in the Brahmaputra valley of Assam; in Mahanadi delta of Orissa and the coastal plain of Kerala. All these account for 50% of the rice acreage of India. These areas lie on the wetter side of the 125 cms., isohyetal line and can grow rice without irrigation. Almost in every district of West Bengal rice accounts for more than 60% of the net area sown. In Bihar, it is grown mainly in the Northern Plain—the districts of Champaran, Saran, Shahabad, Muzaffarpur, Darbhanga, Saharsa, Bhagalpur and Purnea. In Uttar Pradesh the western limit of the rice area without irrigation is set by the 100 cms. rainfall line, comprising the districts of Basti, Gorakhpur, Azamgarh, Deoria and Varanasi. All the coastal districts of Kerala State and three districts of Assam State in the lower Brahmaputra Valley—Goalpara, Kamrup and Nowgong are also important rice-growing areas. Here rice is an unirrigated crop.

In the coastal districts of Andhra Pradesh—(East Godavari, West Godavari and Krishna) and Madras (Chingleput and Thanjavur), rice occupies nearly 60% of the total cropped area. Much of this area records a rainfall below 100 cms. except in a few districts of Tamilnad Coast where rainfall is above 100 cms.

Wheat : Wheat is a winter crop in India grown mainly in areas with a cool moist climate (temperature in the neighbourhood of 55°F and a rainfall

in between 25 cms. to 75 cms.) or with irrigational facilities. It is predominant in the irrigated areas, such as (i) Sutlej and Upper Ganga Plain comprising western Uttar Pradesh and Punjab; (ii) the Malwa Plateau including the north-western Madhya Pradesh and (iii) the north-eastern districts of Rajasthan.

During 1956—61 the average acreage under wheat was about 32 million accounting for nearly 12% of the total area sown of India. About 70% of India's total wheat acreage is concentrated in the above three areas.

In Uttar Pradesh and Punjab, wheat is cultivated more or less throughout the States, but it is intensively grown in the western districts of Uttar Pradesh—Moradabad, Meerut, Muzaffarnagar, Bulandshahr, Saharanpur, Dehra Dun, Budaun and in the districts of Ferozepur, Sangrur, Karnal, Bhatinda, Rohtak, Amritsar etc. of Punjab where canal irrigation from the rivers Ganga, Yamuna and Sutlej is available. In Rajasthan, wheat is grown in irrigated tracts, such as, the Chambal basin embracing the districts of Sawai Madhopur, Bharatpur, Alwar and Chitorgarh and Rajasthan canal area comprising the Ganganagar district. The Malwa Plateau in Madhya Pradesh is one of the chief wheat growing tracts of the country embracing the districts of Sagar, Vidisha, Sehore and Hoshangabad. In Maharashtra Plateau region, wheat is cultivated mainly in the districts of Nasik, Aurangabad, Bhair and Nagpur. Wheat is also grown in the districts of Shahabad, Monghyr, Gaya and Saran of Bihar State. Wheat is replaced by rice as the rainfall goes on increasing and temperature continues to rise.

Millets : Millets flourish in hot and fairly dry climate. The millets of India mainly include maize, jowar, bajra and ragi. Except maize, the other millets are grown with the help of irrigation in the areas having dry climate. Millets are hardly grown in the areas having more than 100 cms. of rainfall per annum. A glance at the map reveals that millets are exclusively grown in the dry plateau areas of the Deccan Peninsula and in arid and semi-arid plains of north-western India.

Maize : Maize is mainly grown in northern India accounting for 80% of the total acreage under this crop. It is cultivated in Uttar Pradesh, Punjab, Bihar and Madhya Pradesh.

Jowar : Jowar is extensively cultivated in the western part of the Deccan Plateau and Maharashtra. Madras, Madhya Pradesh and Andhra Pradesh support more than 50% of the country's acreage under jowar.

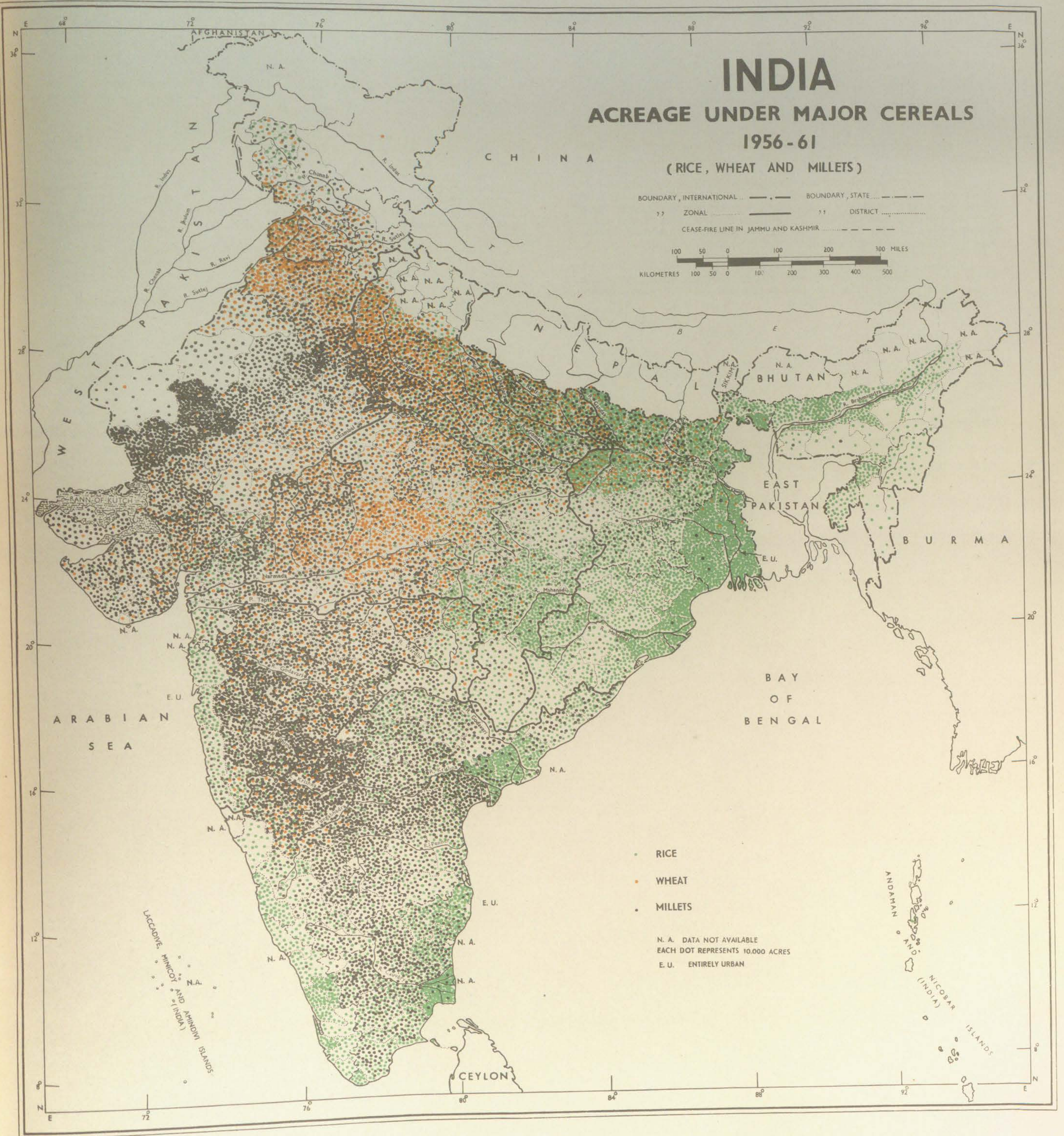
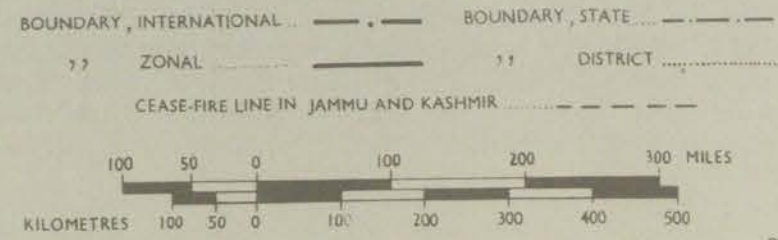
Bajra and Ragi : Bajra and Ragi are more tolerant of poor soils and dry climate than other millets. The States of Maharashtra, Madras, Punjab, Andhra Pradesh and Rajasthan are the principal bajra-growing areas while ragi is cultivated mainly in the southern States of Mysore, Madras and Andhra Pradesh.

Source : Agricultural Situation in India, Ministry of Food & Agriculture, New Delhi.

INDIA

ACREAGE UNDER MAJOR CEREALS 1956-61

(RICE, WHEAT AND MILLETS)



ACREAGE UNDER PULSES AND OILSEEDS, 1956—61

Purpose : This map shows the districtwise distribution of acreage under pulses and oilseeds in India.

Method : For this map gram and tur are taken under pulses, while groundnut, castorseed, rapeseed and mustard, sesame and linseed are included in oilseeds. The acreage figures for pulses and oilseeds (average of five years from 1956-57 to 1960-61) for each of the districts have been taken into account and their distribution is shown by dots of two different colours for pulses and oilseeds. Each dot represents 10,000 acres of land under each of these two crops as shown in the index.

Salient Features : During 1956—61, in India, the yearly average total area sown under pulses was about 29 million acres, while that under oilseeds was about 24 million acres which account for nearly 11% and 9% of India's total area sown respectively. This map brings out that the concentration of pulses is pre-eminently in the Northern Plain, while that of oilseeds is in the Peninsular India. The densest concentration of pulses is in the State of Punjab followed by Uttar Pradesh, Bihar and Madhya Pradesh, while that of oilseeds the concentration is in the State of Gujarat followed by Mysore, Andhra Pradesh, Madras and Maharashtra.

Pulses : The area under pulses is mainly concentrated in the drier part of the country especially in the North-Western Plain and in the dry plateau regions of the Peninsula. In Northern India, as the rainfall decreases, the cultivation of pulses increases.

Of the two pulses, the cultivation of gram is more widespread than tur. It occupies an extensive area in the Northern Plain starting from Punjab to Bihar State. Other areas outside the Northern Plain producing gram are in Madhya Pradesh, Rajasthan and Maharashtra. Gram is a winter crop and grown in the drier parts of the country. It is heavily concentrated in southern part of Uttar Pradesh—from Agra to Mirzapur, in Southern Punjab embracing the districts of Hissar, Bhatinda, Sangrur, Ferozepur, Rohtak and Karnal and in northern part of Rajasthan comprising the districts of Ganganagar, Alwar, Bharatpur, Sawai Madhopur and Jaipur.

Tur is cultivated mainly in Bundelkhand Plateau of Uttar Pradesh and in some parts of Maharashtra. It is also grown in some parts of Madhya Pradesh, Bihar and Andhra Pradesh.

Oilseeds : Among six major oilseeds in the country, mustard and rapeseed are grown as rabi crops in Northern Plain and groundnut, sesame, castorseed and linseed are cultivated as kharif crops in Peninsular India. Oilseeds are widespread in the drier part of India and its heavy concentration is in Kathiawar Peninsula of Gujarat and in the Krishna and Tungabhadra basins of Mysore and Andhra Pradesh. Groundnut is the main oilseeds in these areas. Nearly 59% of 12·8 million acres of groundnut is concentrated in Gujarat, Andhra Pradesh and Mysore. Other groundnut growing States are Madras, Maharashtra and Madhya Pradesh.

Castorseed, one of the important oilseeds of Peninsular India is grown in Andhra Pradesh, Gujarat and Mysore States. About 1,200,000 acres of land on the average of each year during 1956—61 were put to castorseed cultivation. A very high concentration of castorseed is found in the districts of Nalgonda, Mahbubnagar, Hyderabad and Nellore in Andhra Pradesh; Jamnagar and Mehsana districts in Gujarat and Tumkur, Chitradurga and Mysore districts in Mysore State. It is also cultivated to some extent in the States of Orissa, Madras, Bihar and Madhya Pradesh.

Rapeseed and mustard are grown with wheat and their cultivation is restricted to the northern part of India. The principal areas are in Punjab, Uttar Pradesh, Madhya Pradesh and Rajasthan occupying an area of nearly 2 million acres. out of the total 3 million acres on an average year during 1956—61. Other important areas of rapeseed lie in West Bengal, Assam, Bihar and Orissa States.

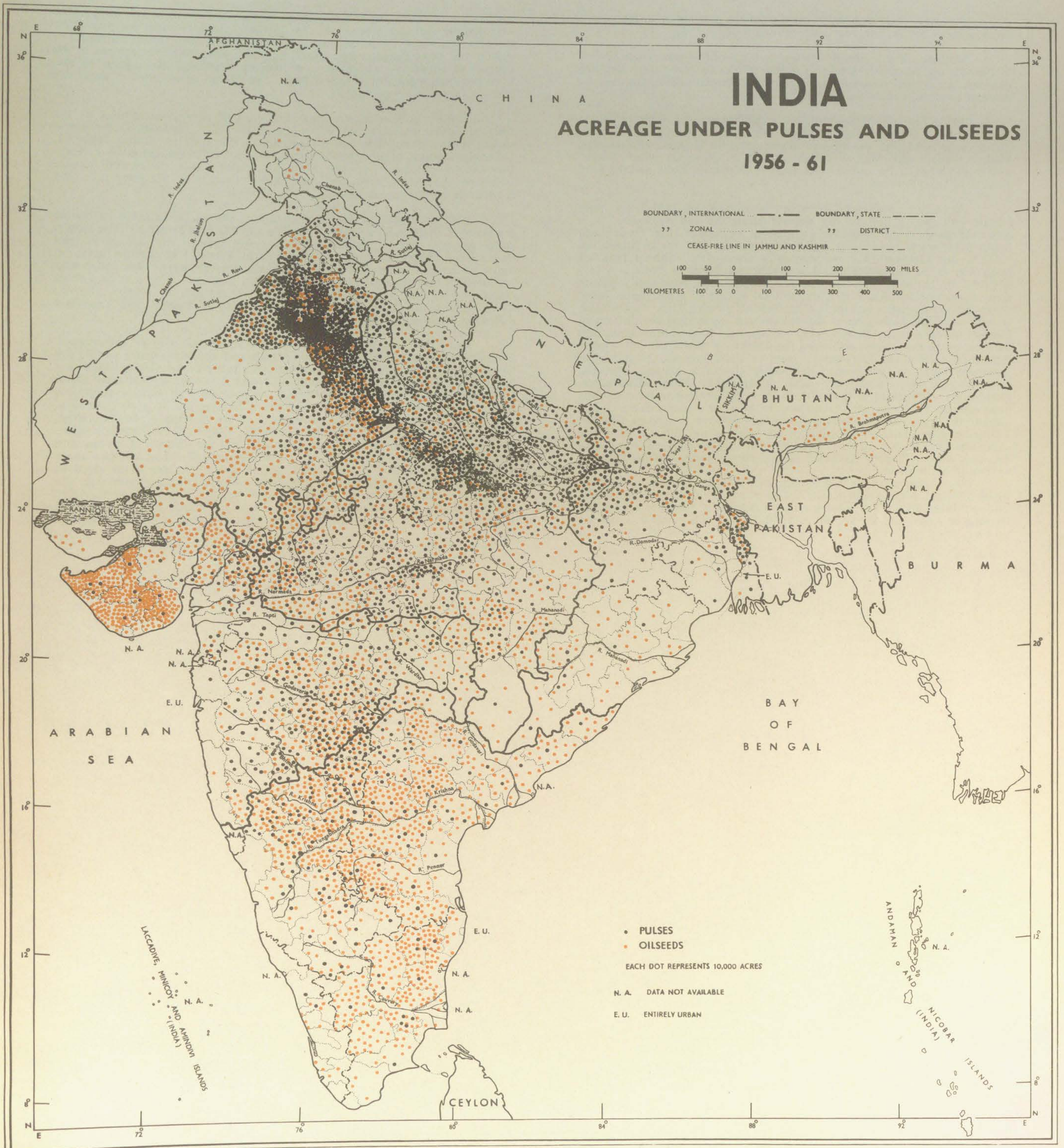
Sesame prefers light and sandy soils and is grown in dry climate, so its cultivation is concentrated mainly in Rajasthan. Nearly one-fourth of the total acreage under its cultivation in the country is found in this State alone. Other States which also grow sesame to some extent are Madhya Pradesh and Madras.

Linseed competes with wheat for land for its cultivation. It is sown in the months of October and November and is ready for harvesting in February and March. It is grown without irrigation. Madhya Pradesh has the largest acreage (1·5 million acres) under linseed mainly confined to the districts of Durg, Raipur, Balaghat and Bilaspur. Other important linseed growing areas lie in the States of Maharashtra, Rajasthan and Bihar.

Source : Agricultural Situation in India, Ministry of Food and Agriculture, New Delhi.

INDIA

ACREAGE UNDER PULSES AND OILSEEDS 1956 - 61



ACREAGE UNDER COMMERCIAL CROPS (AVERAGE 1956—61)

Purpose : This map shows the districtwise distribution of commercial crops, such as, cotton, jute, sugarcane, tea and coffee in India.

Method : The figures of acreage (average of five years from 1956-57 to 1960-61) are taken into account for each district for these crops and their distribution has been shown by dot method. Different colours are used for different crops as indicated in the index of the map.

Salient Features : This map reveals that *sugarcane* is mainly grown in Uttar Pradesh and Punjab; *tea* in Assam, West Bengal, Kerala and Madras States; *coffee* in Madras and Mysore States; *cotton* in Gujarat, Maharashtra, Madhya Pradesh and Madras States and *jute* is grown in West Bengal, Assam and Bihar States and in some parts in Mahanadi Delta and the Terai districts of Uttar Pradesh.

Sugarcane : Sugarcane grows best in alluvial soils and under moist climate with some periods of dry weather during the ripening season. It is cultivated mainly in the Ganga Plain embracing the State of Uttar Pradesh and North Bihar where humidity is high (rainfall exceeds 100 cms. or irrigational facilities are adequate) and temperature is above 80°C. During 1956—61 (each year on an average) the total area under sugarcane in India is over 5 million acres, out of which Uttar Pradesh alone supported more than 3 million acres accounting for nearly 60% of the total acreage of sugarcane in India. There are two distinctive regions in Uttar Pradesh showing high concentration of sugarcane cultivation—one in the western part comprising the districts of Meerut, Muzaffarnagar, Bulandshahr, Saharanpur, Bijnor, Moradabad and the other in the eastern part embracing the districts of Kheri, Sitapur, Deoria Azamgarh, Gonda and Gorakhpur. Next to Uttar Pradesh, the important sugarcane growing areas are in Punjab (Rohtak, Karnal, Ambala, Jullundur, Sangrur, Patiala) and Bihar (Champaran, Saran, Muzaffarpur, Darbhanga). Compared to the northern plain, the Peninsular India exhibits lesser acreage under sugarcane. Sugarcane in the south is grown in the coastal districts of West Godavari, East Godavari and Krishna in Andhra Pradesh; Thanjavur, South Arcot and North Arcot in Madras and also a few districts in the interior plateau, such as, Coimbatore district in Madras and Nizamabad district in Andhra Pradesh; Kolhapur, Satara, Poona, Nasik and Ahmadnagar districts in Maharashtra.

Tea : Assam has the largest acreage (395,791 acres) under tea followed by West Bengal, Madras and Kerala. Tea plantation is highly concentrated in Upper Brahmaputra Valley comprising the districts of Lakhimpur, Sibsagar, Darrang in Assam and in the hills and hillslopes of West Bengal embracing

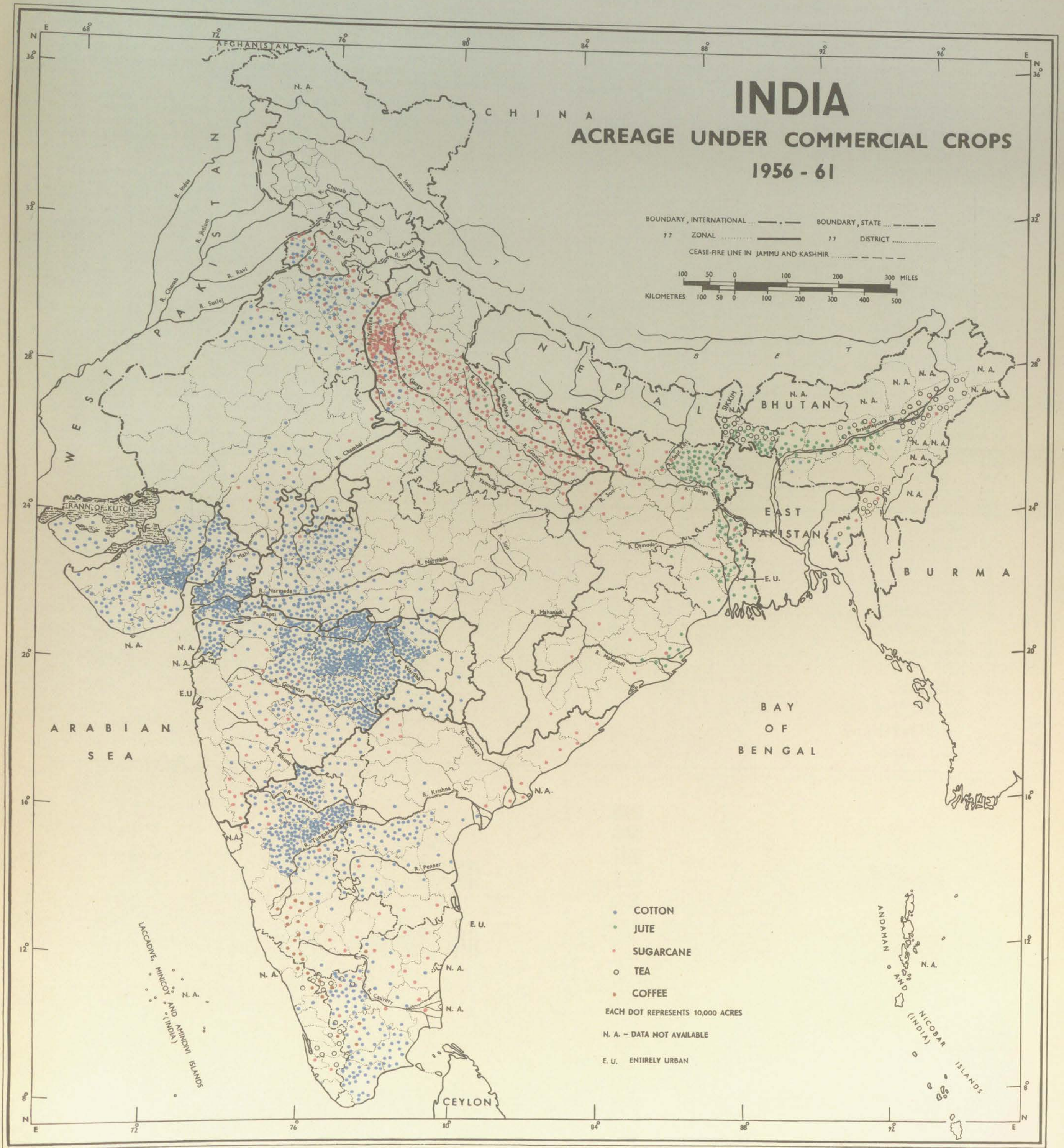
the districts of Darjeeling and Jalpaiguri. In the above areas nearly 20% of the area sown is under tea plantation. In 1960-61, the area under tea plantation in India was about 1.6 million acres of which nearly 40% was in the States of Assam and West Bengal. The next important tea-growing areas are in the districts of Nilgiri and Coimbatore of Madras State and Kottayam, Kozhikode and Quilon districts of Kerala State. The other tea-plantation areas are in the Kangra district of Punjab.

Coffee : Coffee requires the same type of natural conditions as tea does except that it cannot stand low temperature and so it is found exclusively in south. Mysore monopolises coffee plantation in the country. During 1960-61, coffee plantation in India occupied an area of about 0.26 million acres concentrated in the districts of Hassan, Shimoga, Chikmagalur, Coorg and Mysore of Mysore State; Nilgiri, Madurai and Salem districts of Madras State and Kozhikode and Kottayam districts of Kerala State.

Cotton : Cotton is the most important fibre crop in India grown in the States of Maharashtra, Gujarat, Mysore and Madhya Pradesh. The largest cotton-growing tract is visible in the lava soil area of the Deccan Plateau embracing 6.39 million acres in Maharashtra State, 4.36 million acres in Gujarat State and 1.93 million acres in Madhya Pradesh State. The entire area accounts for two-thirds of India's total cotton acreage. The next important cotton-growing area is in Mysore Plateau and western part of Andhra Plateau. Cotton is an irrigated commercial crop in the State of Punjab and Tamilnad Plateau in Madras.

Jute : Jute ranks next to cotton as commercial crop of importance. It requires hot and humid climate, loamy soils and abundant water supply for its retting and washing. These conditions are present in the Ganga Delta and Brahmaputra Valley and to some extent in North Bihar Plain, Mahanadi Delta and in the Terai districts of Uttar Pradesh. About 40% of India's total jute acreage (0.8 million acres) is in West Bengal. Though, jute is grown throughout the State, but its heavy concentration is in the districts of Murshidabad, West Dinajpur, Nadia, 24-Parganas, Hooghly, Cooch Behar and Jalpaiguri. Next to West Bengal, North Bihar Plain—mainly the districts of Purnea and Saharsa rank in acreage under jute. West Bengal and Bihar together share nearly 60% of the total acreage under jute in India. Assam ranks third in acreage under jute, principally the lower Assam Valley comprising the districts of Goalpara, Kamrup, Darrang and Nowgong. Jute cultivation is also practised in the coastal districts of Orissa, namely, Cuttack and Balasore and to some extent in the Terai districts of Uttar Pradesh (Kheri, Sitapur, Bahraich).

Source : Directorate of Economics and Statistics, Ministry of Food & Agriculture, New Delhi.



YIELD PER ACRE OF RICE, WHEAT, MILLETS AND PULSES (AVERAGE 1956-61)

Purpose : These four maps depict the yield (average of five years) of rice, wheat, millets and pulses (tur and gram) per acre in each of the districts of India during 1956-61.

Method : The yield per acre for each of the above cereals is measured in lbs. as an average of five years (1956-57 to 1960-61) for each of the districts and their distribution is shown in four separate maps. The figures are grouped into seven ranges from high to low as given in the index of the maps and the districts are shaded by choropleth method accordingly to show the variation of crop yields under consideration.

Salient Features—Rice : The average yield per acre of rice in India was 828.80 lbs. during 1956-61. The highest yield per acre of land was in the district of Bellary (1,814 lbs.) in the State of Mysore. The yield per acre of rice was high in the States of Madras, Kerala, Mysore and Andhra Pradesh. The yield was strikingly high (above 1,200 lbs.) in the districts of Coorg (1,658 lbs.) and Mysore (1,590 lbs.) in Mysore State; in North Arcot (1,434 lbs.), South Arcot (1,277 lbs.), Salem (1,658 lbs.), Madurai (1,523 lbs.), Tiruchirapalli (1,322 lbs.), Thanjavur (1,277 lbs.), Tirunelveli (1,523 lbs.), Kanyakumari (1,501 lbs.) and Nilgiri (1,165 lbs.) districts in Madras State. The high yield in these regions is mostly due to the intensive method of cultivation and irrigation. The coastal districts of Kerala and Andhra Pradesh also recorded a high yield of rice (1,000-1,200 lbs.). The Western Coast, the southern districts of Andhra Pradesh, nearly the whole of West Bengal, Assam, eastern part of Bihar, Punjab, Himachal Pradesh and the districts lying in the Upper Ganga-Yamuna doab in Uttar Pradesh recorded a medium yield per acre of rice ranging between 800 lbs. and 1,200 lbs. The areas showing low yield per acre of rice are found in low rainfall regions of Madhya Pradesh, central part of Maharashtra Plateau and Gujarat. In Eastern Uttar Pradesh and North Bihar, inspite of high rainfall and favourable landform, the yield was low. This is mostly due to erratic rainfall and inadequate irrigational facilities.

Wheat : The yield per acre of wheat in India was 669.49 lbs. during 1956-61. The highest yield was recorded in the district of Alwar (1,187 lbs.) in Rajasthan and the lowest yield was in the district of Mahbubnagar (112 lbs.) in Andhra Pradesh. In general, the areas showing a very high yield occur in

Punjab and Western Uttar Pradesh plain and those of low yield are in Bundelkhand Plateau in Uttar Pradesh where the soil is thin and intermingled with stones. The difference in yield per acre is due to the climatic conditions, soils, irrigational facilities and management practices. The irrigated areas, such as, the canal irrigated Punjab Plain, the Upper Ganga Plain and north-western districts of Rajasthan State showed a higher yield varying from 800 lbs. to 1,200 lbs. The Peninsular Plateau in the south shows a very low yield. Eastern Madhya Pradesh, Bihar, eastern Uttar Pradesh, West Bengal, Assam and Orissa recorded a low yield.

Millets : Millets are grown mainly in drier parts of the country and they are of less importance in the areas having rainfall above 100 cms. It is interesting to note that the highest yield per acre of millets was found in the district of Cannanore (1,501 lbs.) of Kerala where rainfall is appreciably high. It was strikingly high in the coastal districts of Kozhikode and Trichur in north Kerala. The reason for this high yield in wet climate is the intensive method of cultivation practised in these districts. Mahanadi and Son basins in Madhya Pradesh; Orissa State; north-western districts of Rajasthan and Gujarat States and north-eastern districts of Mysore State showed a very low yield per acre of millets (90-400 lbs.). The lowest yield was recorded in the district of Jodhpur in Rajasthan State (45 lbs.) although it is the most important crop of the district.

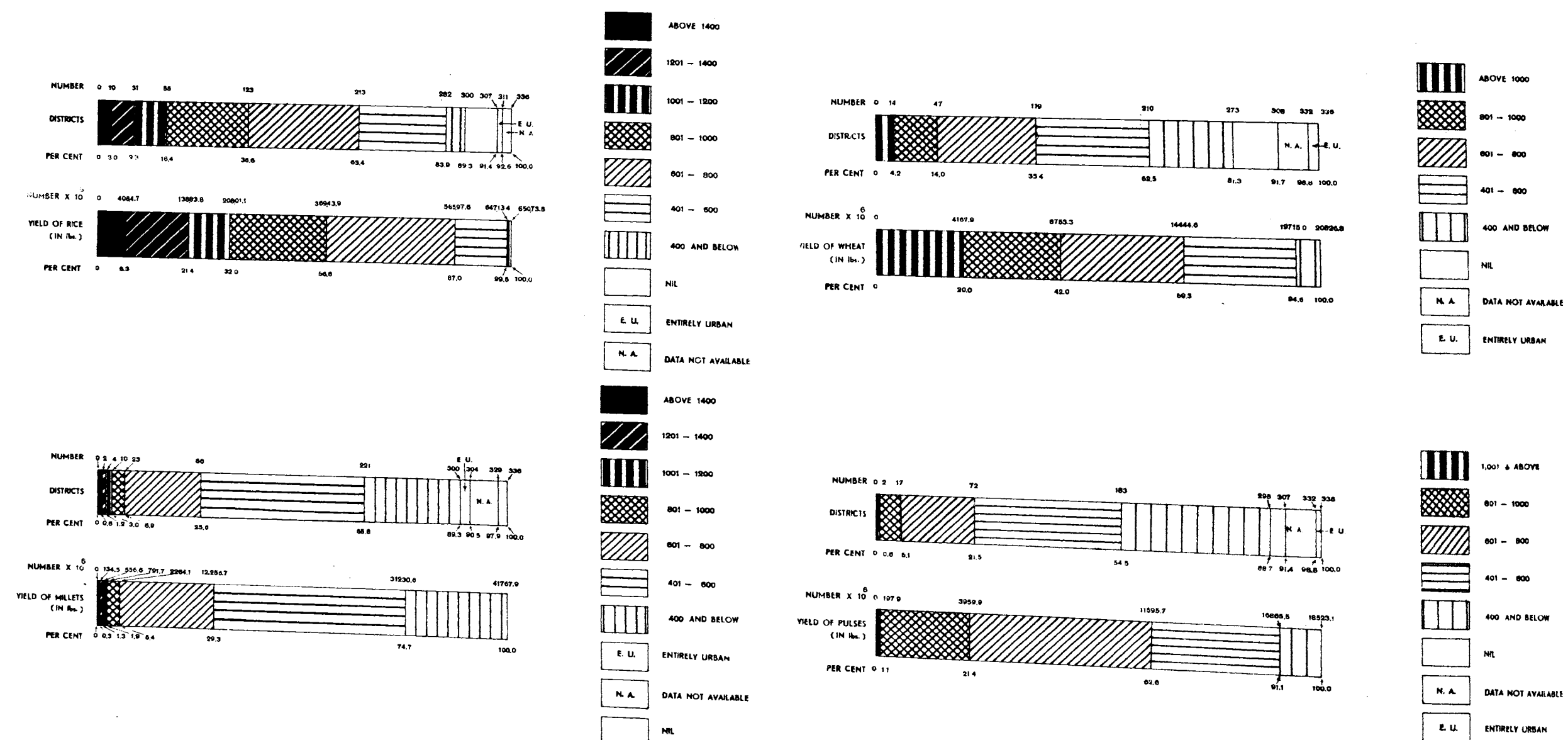
Pulses : In India, the average yield per acre of pulses (gram and tur) was 576.69 lbs. during 1956-61. Though, the highest yield per acre was found in the district of Balasore (1,523 lbs.) in Orissa followed by Kutch (1,254 lbs.) in Gujarat State but extensive areas showing a high yield lie in Punjab, southern districts of Ganga Plain in Uttar Pradesh, Bundelkhand Region in Uttar Pradesh as well as in Madhya Pradesh and the eastern part of Maharashtra Plateau. The whole of the southern peninsula, Bihar, West Bengal and Rajasthan States showed a very low yield of pulses.

To sum up, the yields per acre of the crops considered in these maps are not on the whole satisfactory. The low yield of the crop is mostly due to the fact that they are often grown under rain fed conditions and are cultivated in extensive ways. High yields are concentrated only in the areas having irrigational facilities and when intensive methods of cultivation are practised.

Sl. No.	State/Union Territory	Average yield of 1956-61			
		Rice	Wheat	Millets	Pulses
1	2	3	4	5	6
INDIA	...	829	669	426	577
STATES					
1 Andhra Pradesh	...	1,098	202	448	291
2 Assam	...	851	560	426	560
3 Bihar	...	672	448	605	403
4 Gujarat	...	605	493	291	381
5 Jammu and Kashmir	...	986	582	717	963
6 Kerala	...	1,142	...	784	426
7 Madhya Pradesh	...	694	538	470	538
8 Madras	...	1,299	336	672	336
9 Maharashtra	...	896	358	448	470
10 Mysore	...	1,120	202	381	269
11 Orissa	...	672	560	336	336
12 Punjab	...	851	941	515	717
13 Rajasthan	...	717	806	224	560
14 Uttar Pradesh	...	838	717	493	672
15 West Bengal	...	918	470	582	482
UNION TERRITORY					
1 Himachal Pradesh	...	806	650	694	314

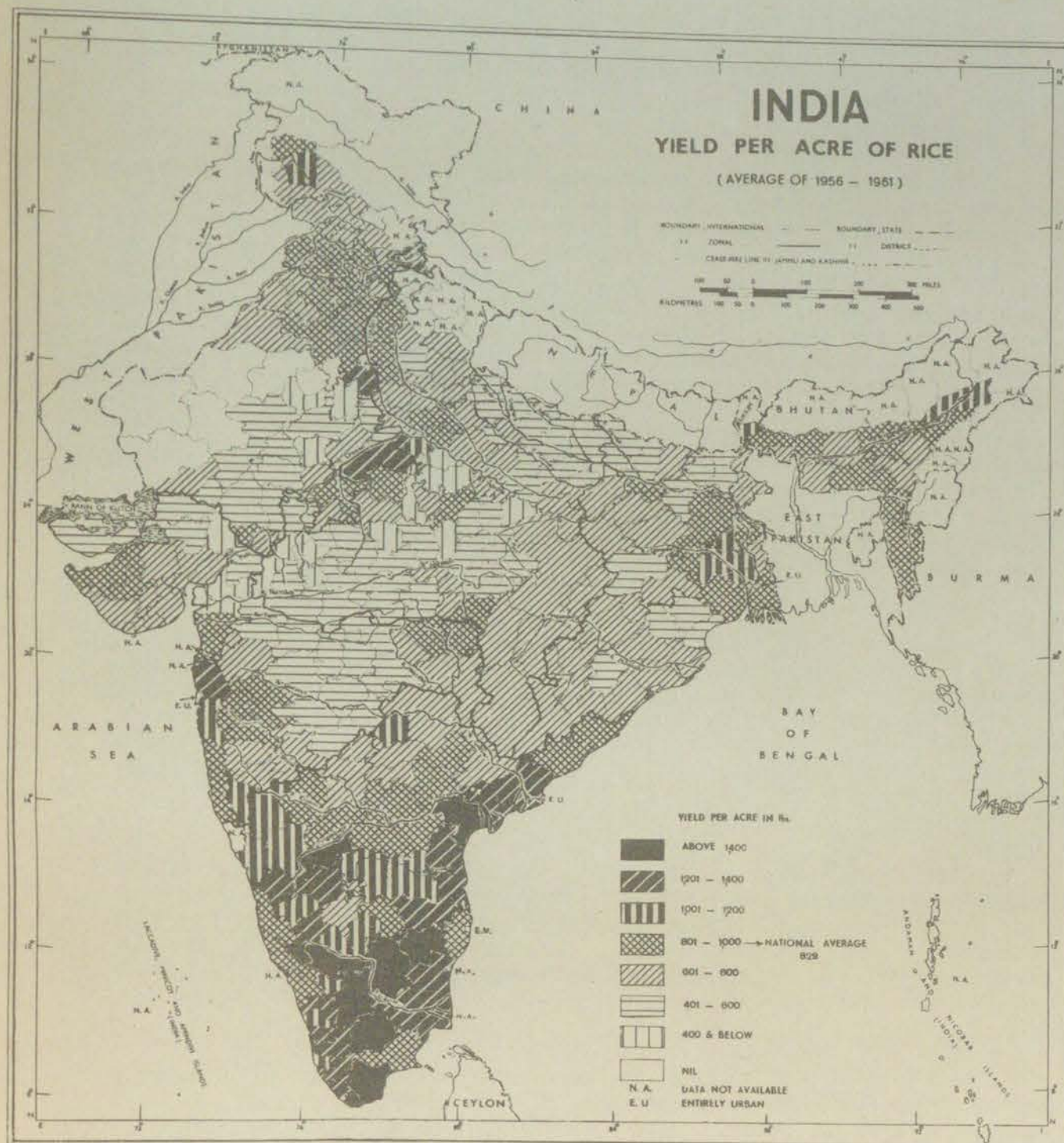
Note : Data for other Union Territories and Other Areas are not available.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi.



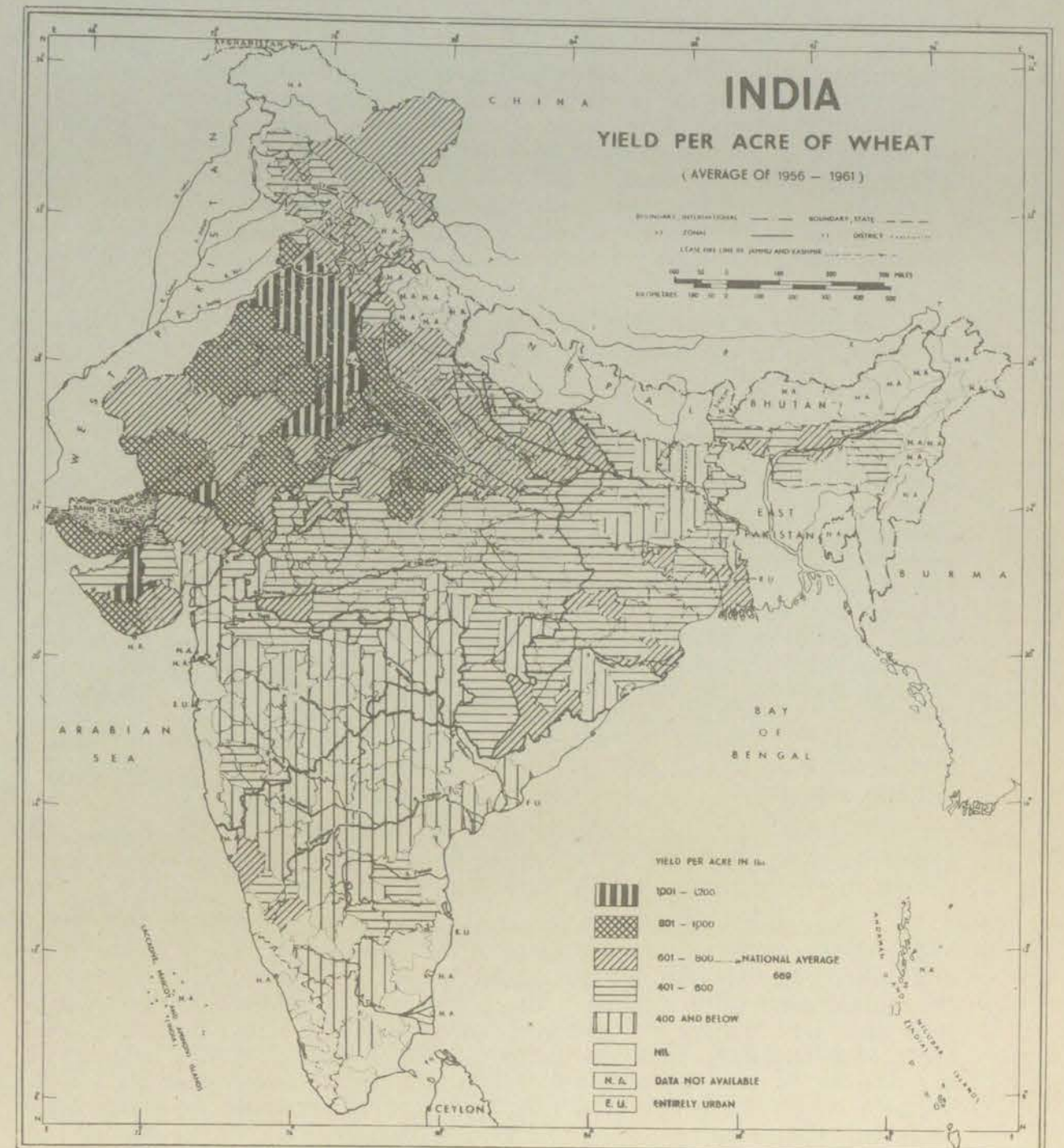
YIELD PER ACRE OF RICE, WHEAT, MILLETS AND PULSES

(AVERAGE OF 1956-61)



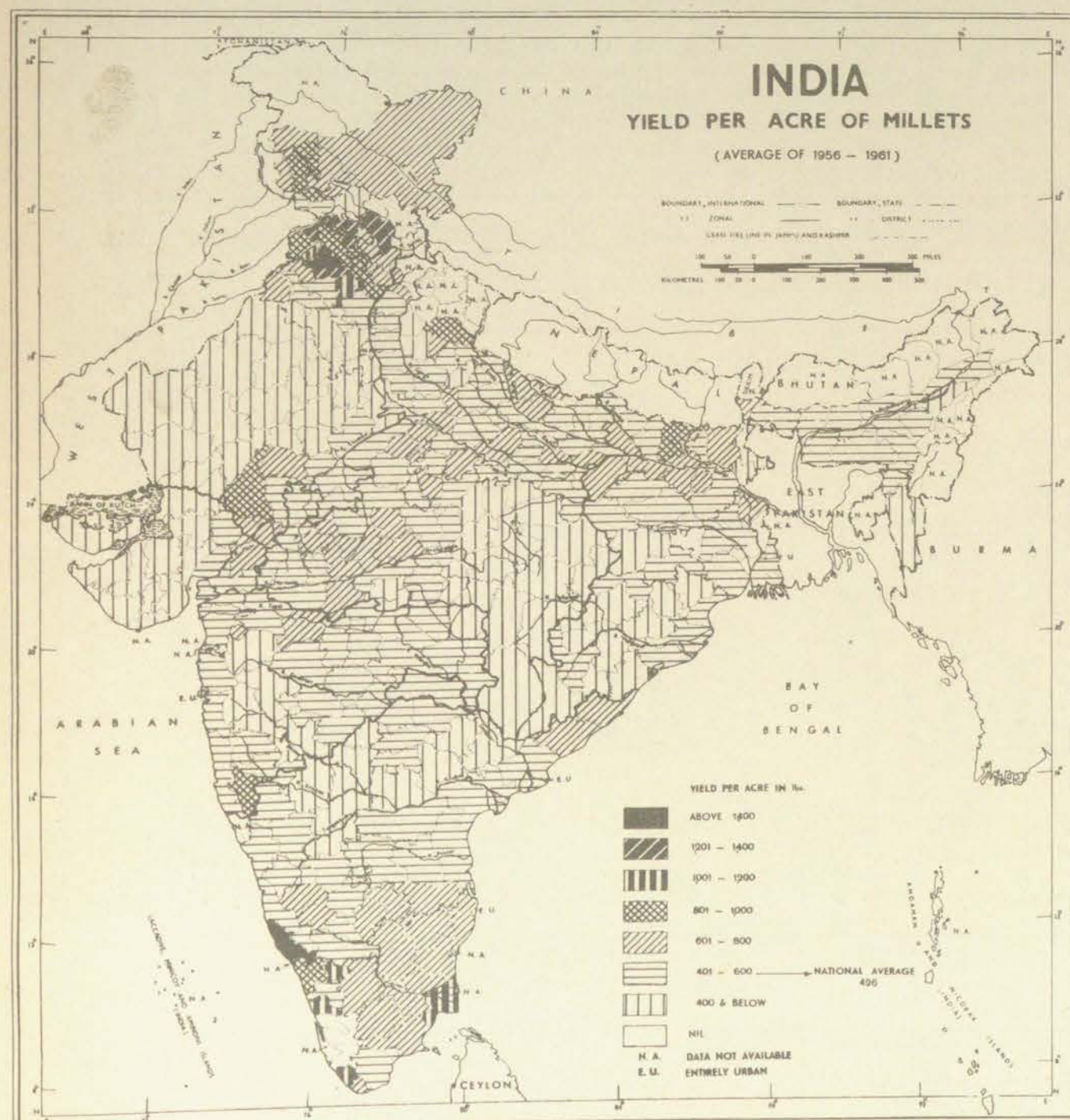
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The demarcation of the Gujarat-West Pakistan Boundary in accordance with the Indo-Pakistan Western Boundary case Tribunal Award is in Progress (1960).

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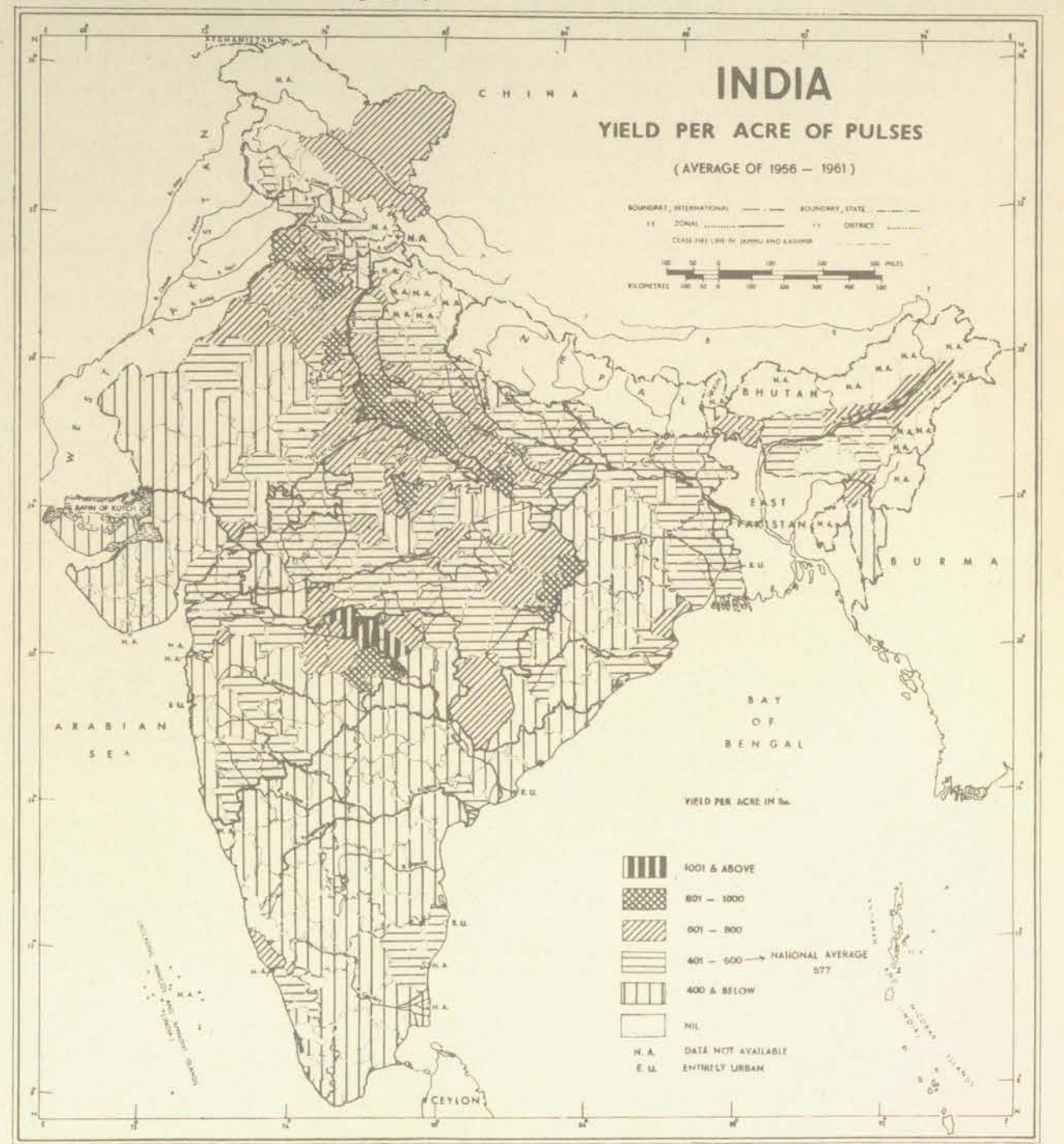
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AREA IRRIGATED BY VARIOUS SOURCES, 1960-61

Purpose : This map displays the district-wise proportion of net area irrigated to net area sown and also the proportion of area irrigated by different sources, e.g., canals, tanks, wells etc., in each of the States/Union Territories of India in 1960-61.

Method : The percentage figures of net area irrigated by various sources to the net area sown are calculated for each of the districts and indices thus obtained are grouped into six ranges above and below the National Average (18.36%) are explained in the legend of map. According to these ranges all the districts are shaded to depict the variations in intensity of irrigation measured by the ratio of irrigated area to the net area sown. In each State/Union Territory a circle proportionate to the net area irrigated is drawn and it is divided into sectors showing the proportionate share of various sources of irrigation, such as, canals, tanks, wells and other sources like *Pynees*, *Ahars*, *Kuhls* etc. These sectors are represented by different colours on the map. The areas without any irrigation system are kept blank and the areas for which data are not available are marked with the abbreviation 'N.A.' on the map.

Salient Features : The map may be interpreted under two main heads, viz., (1) Intensity of Irrigation and (2) source of Irrigation.

(1) *Intensity of Irrigation :*

The hill district of Ladakh in Jammu and Kashmir has the highest proportion (100%) of net area sown irrigated followed by the district of Lahaul & Spiti (99.24%) in Punjab. The proportion of irrigated tract is very high (35.01 to 45.00% and above 45.00%) in the Plains of Punjab, in Western and Eastern Uttar Pradesh, in South Bihar Plain, in Damodar Valley, in the coastal districts of Andhra Pradesh and Madras, the western districts of Tamilnad Plateau (Coimbatore and Madurai), the district of Rajkot in Gujarat and Shimoga and South Kanara districts in Mysore. The worth-mentioning districts which have a very high percentage of irrigated area to the net area sown are Amritsar (90.47%) and Jullundur (70.22%) in Punjab; Thanjavur (85.29%) and Chingleput (74.42%) in Madras; Gaya (78.27%), Shahabad (74.61%) and Patna (70.09%) in Bihar; Lakhimpur (75.04%) in Assam; West Godavari (74.18%) Krishna (67.29%) and East Godavari (64.20%) in Andhra Pradesh; Birbhum (70.07%) in West Bengal; Bhilwara (72.11%) in Rajasthan and Meerut (68.60%) in Uttar Pradesh.

Besides these plain areas, the hill tracts of Jammu & Kashmir and the Union Territory of Manipur where the net area sown is very limited also show a very high proportion of irrigated area to net area sown.

The areas which fall under third and fourth ranges (25.01—35.00% and 15.01—25.00%) exhibit the proportion of net area sown irrigated just above and nearer the National Average (18.36%). These areas are lying mostly in the interior parts of the country where minor irrigation projects are prevalent, such as, Assam Valley, the northern districts of West Bengal and Bhagirathi Delta, Mahanadi Basin in Orissa, Western Upland Region of Madras and northern Andhra Pradesh, northern part of Chotanagpur Plateau, Ganga plain and Western Avadh plain, Vindhyan scarplands in Uttar Pradesh, the Wainganga basin in Maharashtra and Eastern Rajasthan Uplands.

The proportion of net area sown irrigated is low (below 15%) in the areas where irrigational facilities are limited due to the physical and climatic handicaps, such as, in the dry plateau of Mysore, Andhra Pradesh and Maharashtra, Malwa Plateau and Vindhyan and Satpura ranges, Dandakaranya Region, Baghelkhand Uplands and Gujarat plains and uplands. The proportion further decreases in the highly rainfed west coast plain in Maharashtra and Kerala States.

The arid tract of Rajasthan has a very low proportion of net area sown irrigated mainly because of scanty and erratic rainfall together with light and

sandy soils which allow easy percolation. Thus the district of Bikaner has the lowest proportion of net area sown irrigated (0.01%) followed by the districts of Churu (0.02%) and Jaisalmer (0.06%) in Rajasthan.

(2) *Source of Irrigation :*

In 1960-61, the total net area sown was 328 million acres, out of which nearly 60 million acres accounting for nearly 18.4% was irrigated by various sources. These sources are divided under four heads, viz., (a) canals (b) wells (c) tanks and (d) others.

(a) *Canal Irrigation*

In 1960-61 canal irrigation accounted for 41.92% of the total irrigated net area sown of India. It plays a dominant role in crop-farming in Punjab Plains, in Ganga-Yamuna *doab* and Trans-Ganga-Gomati-Ghaghara *doab* areas of Uttar Pradesh, in South Bihar Plains, in Damodar Valley area of West Bengal and in the delta regions of Krishna, Godavari and Cauvery rivers of Andhra Pradesh and Madras States. The second important canal irrigated areas are in the State of Jammu & Kashmir, the Union Territory of Manipur and the districts of Rajkot (Gujarat), Shimoga (Mysore) and Lakhimpur (Assam). Next to them are the States of Punjab (66.3%), West Bengal (61.2%), Assam (59.5%), Madhya Pradesh (47.7%), Andhra Pradesh (45.7%), Kerala (43.6%), Uttar Pradesh (39.5%), and Madras (35.8%). The important canal systems in the above States are Upper Bari *doab* Canal, Sirhand canal, Bhakra Canal, Western Yamuna Canal (Punjab), Eastern Yamuna Canal, Upper and Lower Ganga Canals, Sharda Canals (Uttar Pradesh), Son Canals (Bihar), Damodar Canals (West Bengal), Godavari-Krishna Canals (Andhra Pradesh) and Cauvery Canals (Madras).

(b) *Well Irrigation*

Irrigation by wells and tubewells accounted for nearly 29.63% of the country's total net area sown irrigated during 1960-61. Well irrigation is the predominant type of irrigation in the States of Gujarat (83.1%), Rajasthan (57.9%), Maharashtra (55.5%), Uttar Pradesh (47.3%) and in the Union Territory of Delhi (54.1%). The worth mentioning areas where well irrigation is intensive, are the Plains of Punjab and western and eastern districts of Uttar Pradesh.

(c) *Tank Irrigation*

Tank ranks third in importance as the source of irrigation in the country accounting for nearly 18.55% of the total net area sown irrigated. Tank irrigation commands a very large proportion of the net area sown irrigated in the States of Mysore (40.0%) and Andhra Pradesh (39.6%), Madras (38.0%), Orissa (50.66%) and the Union Territory of Laccadive, Minicoy and Amindivi Islands (100.0%).

(d) *Other Sources*

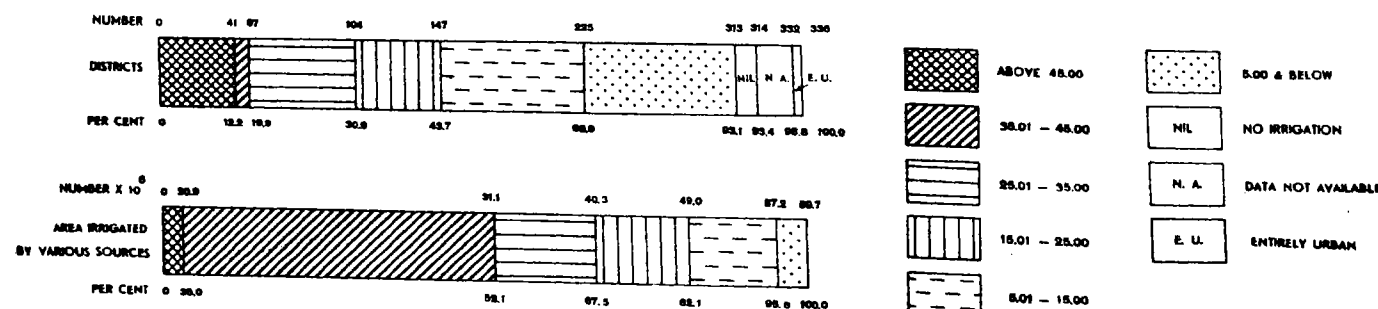
About 9.90% of the total net area sown is irrigated by other sources such as, *Pynees*, and *Ahars*, in Bihar State, 'Lift irrigation' in Assam, *Kuhl* in Punjab and Himachal Pradesh. The Union Territories of Nagaland (100.00%) Himachal Pradesh (100.0%) and Tripura (95.8%) and the States of Kerala (41.12%), Assam (40.5%) and Bihar (40.1%) show a high proportion of net area sown irrigated by other sources besides canals, wells and tanks.

The analysis of the map brings out the fact that the Sutlej-Ganga Plain and some hill tracts in the north and the east coast Plain particularly the river deltas where canal irrigation is significant show a high proportion of net area sown irrigated, while the semi-arid regions of the Peninsular India and the arid tracts of Rajasthan exhibit a low proportion of irrigated area to the net area sown. This variation in proportion of irrigated area between these two broad regions is mainly due to their water-resource potentials.

Sl. No.	State/Union Territory	Net area sown	Net area irrigated	Percentage of net area irrigated to net area sown	Percentage share of net area irrigated from			
1	2	3	4	5	Canals	Wells	Tanks	Other sources
INDIA	...	328,004,339	60,237,206	18.36	41.92	29.63	18.55	9.90
STATES								
1	Andhra Pradesh	26,646,995	7,188,528	26.98	45.76	11.27	39.57	3.40
2	Assam	5,511,151	1,510,682	27.41	59.48	...	...	40.52
3	Bihar	19,848,256	5,095,465	25.67	31.55	12.68	15.69	40.08
4	Gujarat	23,220,800	1,687,700	7.27	9.64	83.12	1.87	5.37
5	Jammu and Kashmir	1,623,285	677,397	41.73	93.49	1.78	...	4.73
6	Kerala	4,753,616	262,085	16.58	43.53	0.63	14.72	41.12
7	Madhya Pradesh	39,793,894	2,282,251	5.74	47.69	35.11	13.25	3.95
8	Madras	14,817,736	6,084,348	41.06	35.81	24.28	38.03	1.88
9	Maharashtra	44,178,300	2,649,200	6.00	22.69	55.52	17.96	3.83
10	Mysore	25,274,582	2,119,884	8.39	27.48	15.48	40.05	16.99
11	Orissa	14,795,637	2,414,000	16.32	23.03	3.90	50.66	22.41
12	Punjab	18,340,413	7,635,800	41.63	66.28	32.19	0.10	1.43
13	Rajasthan	33,299,665	4,328,350	13.00	30.53	57.92	9.46	2.09
14	Uttar Pradesh	40,822,640	12,464,184	30.54	39.50	47.33	8.31	4.86
15	West Bengal	13,432,400	3,461,400	25.77	61.24	1.13	24.28	13.35
UNION TERRITORIES								
1	Delhi	215,986	83,600	38.71	39.59	54.07	6.34	...
2	Himachal Pradesh	673,604	95,406	14.16	0.35	0.06	...	99.59
3	Laccadive, Minicoy and Amindivi Islands	6,446	9	0.14	...	...	100.00	...
4	Manipur	226,693	168,217	74.20	100.00	...	...	...
5	Tripura	522,240	28,700	5.50	...	...	4.18	95.82

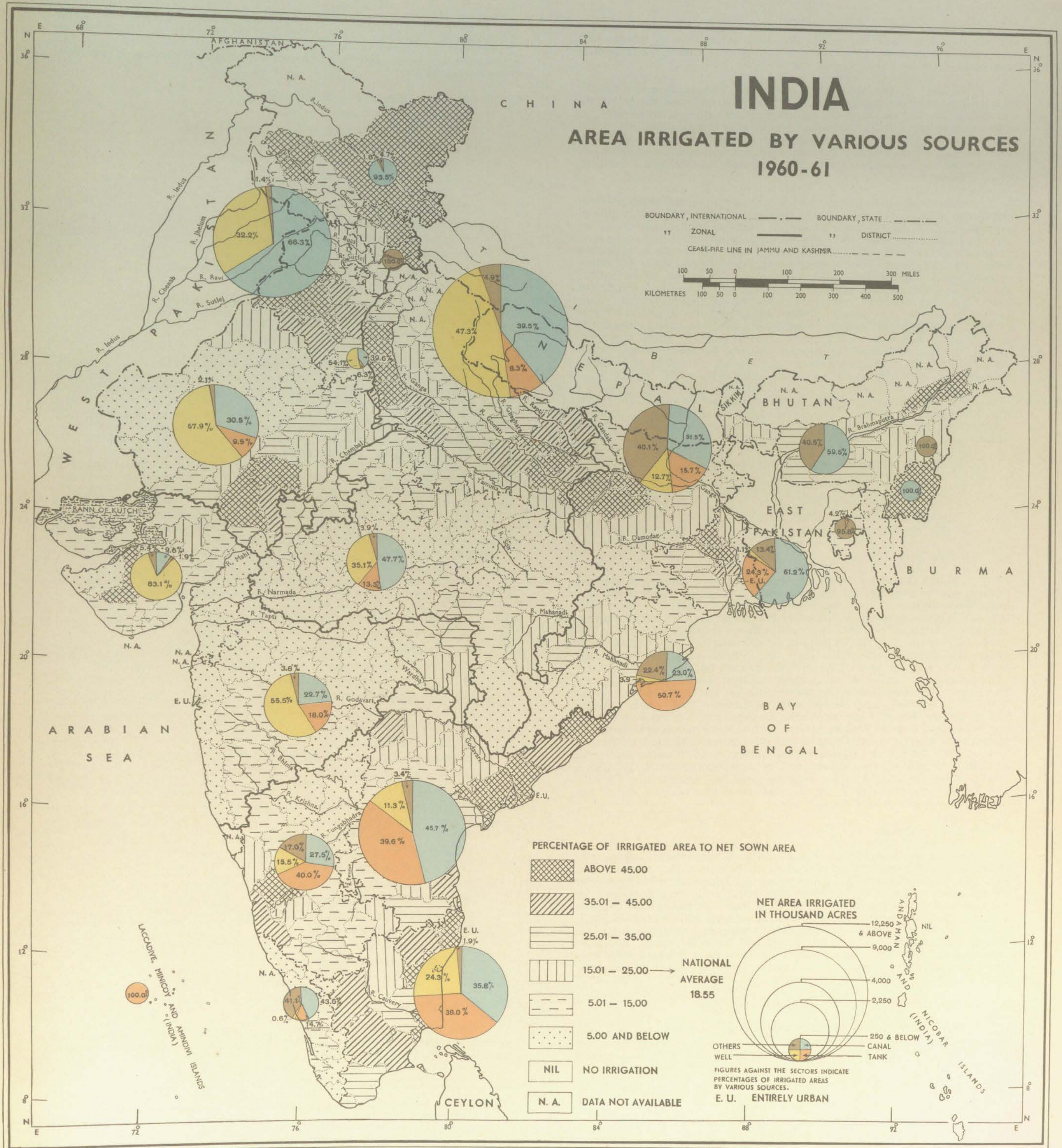
Note: Data for other Union Territories and Other Areas are not available.

Source: Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi.



INDIA

AREA IRRIGATED BY VARIOUS SOURCES 1960-61



MAJOR IRRIGATION SYSTEMS, 1961

Purpose : This map intends to show the major systems of irrigation, viz., canal, tank and wells etc. and the sites of important projects, existing and proposed, in the country. It also shows the extent of existing and proposed area under irrigation.

Method : In the map, both rivers and canals are shown in blue colour. The location of major dams, tanks, weirs and barrages and major electric power stations existing, proposed and under construction is represented by different symbols of various colours as shown in the legend of the map. The extent of area under irrigation—existing and proposed has been shown by different shades of colours. The major projects are shown by numbers in the map and they are explained in the list given along with the map. (entitling "Major Dams").

Salient Features : Irrigation works, the object of which is the artificial application of water to the land for purposes of agriculture as a means of supplementing the natural rainfall, existed in India from time immemorial. The use of irrigation was necessary for agricultural operations in India due to its seasonal character of rainfall. India contains large tracts, such as, Rajasthan desert and south-western Punjab, which are extremely dry and where cultivation without irrigation is impossible. There are others, such as, the interior part of the Deccan Plateau, where cultivation is exceedingly precarious, owing to the great irregularity of rainfall. In general, it may be said that the security of the harvest depends on the existence of some form of irrigation in almost all parts of India except in tracts, such as, eastern part and south-western coast of the country where the average rainfall does not fall short of 70" (1,800 mms.) per annum. India leads the world in irrigation practice. No similar works in other countries approach in magnitude the irrigation works of India and no public works of nobler utility have ever been under taken in the world.

Irrigation systems prevailing in the country are (i) canals (ii) Wells (iii) Tanks and (iv) others. The brief description of important irrigation schemes and projects in the country is given below under the following heads :—

- A. Pre-Plan Period Projects.
- B. Plan Period Projects.
 - (i) First Five Year Plan.
 - (ii) Second Five Year Plan.
 - (iii) Third Five Year Plan.

(a) *Pre-Plan Period Projects :*

About a century ago, two or three million acres of land were irrigated by large number of indigenous irrigation works. About five million acres were under well irrigation at that time mostly in northern India. The first major irrigation work constructed in India was the Ganga canal in Uttar Pradesh opened for irrigation in 1854. This was followed by the Upper Bari *doab* canal in Punjab and the Godavari delta system and the Krishna delta system in Andhra Pradesh. Then came the Sirhind canal in Punjab, the lower Ganga and the Agra canals in Uttar Pradesh and the Mutha canals in Maharashtra. A number of other large irrigation works were constructed afterwards. The worthmentioning among them are Son and Tribeni canals in Bihar; Nira left-bank canal in Maharashtra; Cauvery delta system; Periyar system; Cauvery-Mettur project in Madras; Godavari and Krishna delta system and Nizamsagar canal in Andhra Pradesh; Orissa canals in Orissa; Krishnarajasagar canals in Mysore and Damodar and Midnapore canals in West Bengal. Thus in 1950-51, the area irrigated from all sources was 51.5 million acres out of which 17.9 million acres was irrigated by Government canals, 2.8 million acres by private canals, 8.8 million acres by tanks, 14.7 million acres by wells and 7.3 million acres by other sources. This constituted about 17.5% of the total area cultivated of the country.

(b) *Plan Period Projects :*

Nature has bestowed on us huge blocks of water-power, locked up in the Himalayas and various other sites on the rivers in the south. It is estimated that the total annual flow of the river systems is 1,356 million acre-feet for the Indian Union. Of this only 76 million acre-feet or 5.6% were being used for purposes of irrigation prior to First Five Year Plan. To utilize these immense resources for the economic development of the country, various multi-purpose, major and medium irrigation projects were executed to provide for irrigation, hydro-electric power, flood control, navigation, soil conservation, recreation facilities and fish culture. The brief account of these major projects which have either been completed or under construction or proposed during the successive three Five Year Plans has been given below :—

I. *First Five Year Plan (1951-52—1955-56) :*

Several large irrigation schemes were taken up under the First Five Year Plan, a number of them being multi-purpose in character. During First Five Year Plan period (by 1956) additional irrigated areas accounting about

6.3 million acres were available from major and medium irrigation works taken up during the First Plan. Thus nearly 17% of the total net area sown was brought under irrigation in the First Plan period. A list of the important multi-purpose projects and major or medium irrigation projects of the First Plan is given below :—

- 1 Bhakra Nangal Project (Punjab)
- 2 Hirakud Dam Project (Orissa)
- 3 Damodar Valley Project (West Bengal & Bihar)
- 4 Tungabhadra Project (Andhra Pradesh & Mysore)
- 5 Nagarjunasagar Project (Andhra Pradesh)
- 6 Koyna Project (Maharashtra)
- 7 Rihand Dam Project (Uttar Pradesh)
- 8 Bhadra Reservoir Project (Mysore)
- 9 Machkund Project (Andhra Pradesh)
- 10 Mayurakshi Project (West Bengal)
- 11 Kosi Project (Bihar)
- 12 Gandak Project (Uttar Pradesh, Bihar & Nepal)
- 13 Kakrapara Project (Gujarat)
- 14 Chambal Project (Madhya Pradesh & Rajasthan)
- 15 Harike Barrage (Punjab)

II. *Second Five Year Plan (1956-57—1960-61) :*

During the Second Five Year Plan period several new irrigational schemes were taken up. From the continuing schemes of First Five Year Plan and the new schemes of Second Five Year Plan, there was an additional increase of about 5.2 million acres of land under irrigation. Thus at the end of Second Five Year Plan (i.e. during 1960-61) the total net area sown was about 328 million acres out of which nearly 60 million acres accounting for 18.4% was irrigated by various sources in the country. The canal irrigation accounts for 41.92% of the total area irrigated and it is mostly confined to Punjab Plains, Western and Eastern Uttar Pradesh, Damodar Valley and the delta regions of Andhra Pradesh and Madras states. Next in importance are the wells and tube-wells irrigating 29.63% of the country's total area irrigated. The well irrigation is common in Uttar Pradesh, Punjab, Bihar and Delhi. Tank irrigation shares 18.55% of the total area under irrigation and it is prevalent mostly in Bundelkhand Region of Uttar Pradesh and in the southern Peninsula embracing Orissa, Andhra Pradesh, Madras and Mysore states. The rest of the area is irrigated by 'other sources' which accounts for 9.90%.

Besides the irrigation projects of First Five Year Plan, selected new schemes and projects of Second Five Year Plan are given below :—

- 1 Rajasthan Canal Project (Rajasthan)
- 2 Ukai (Gujarat)
- 3 Tawa (Madhya Pradesh)
- 4 Purna (Maharashtra)
- 5 Vamsadhra (Andhra Pradesh)
- 6 Narmada (Gujarat)
- 7 Banas (Gujarat)
- 8 Mula (Maharashtra)
- 9 Girna (Maharashtra)
- 10 New Khadakvasla (Maharashtra)
- 11 New Kattalai (Madras)
- 12 Salandi (Orissa)
- 13 Gurgaon Canal (Punjab)
- 14 Kangsabati (West Bengal)
- 15 Chandrakeshar (Madhya Pradesh)
- 16 Kabini (Mysore)
- 17 Banas (Rajasthan)
- 18 Bhadria (Gujarat)
- 19 Boothathankettu (Kerala)
- 20 Lidder Canal (Jammu and Kashmir)
- 21 Barna (Madhya Pradesh)
- 22 Laxmanattirtha (Mysore)
- 23 Upper Ken (Madhya Pradesh)
- 24 Vidur (Pondicherry and Madras)

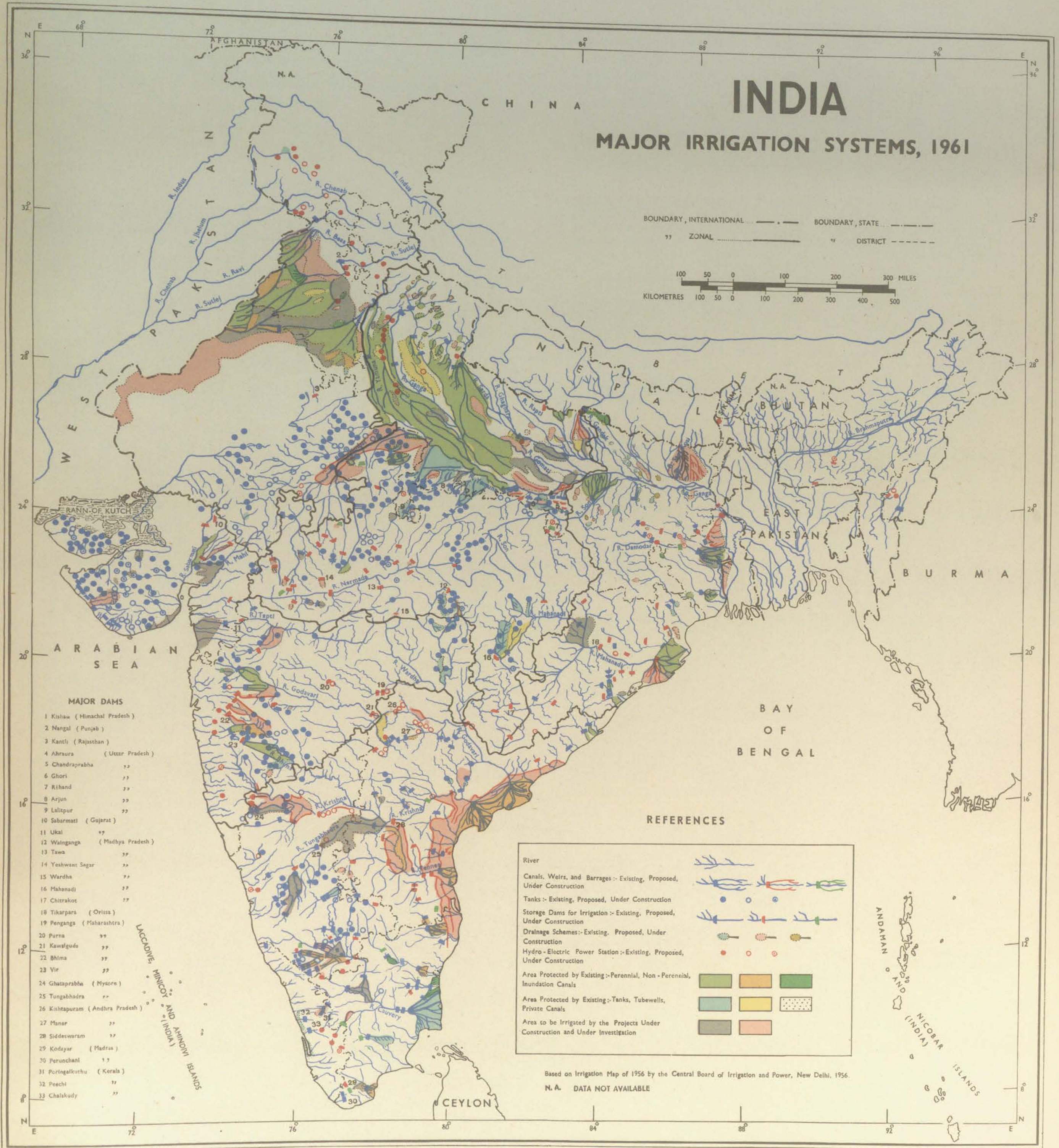
III. *Third Five Year Plan :*

It is estimated that during the Third Plan an irrigation potential of about 9.7 million acres will be created. Certain new schemes will be undertaken during the Third Five Year Plan.

- Sources :
- 1 Central Water & Power Commission, Ministry of Irrigation & Power, Government of India.
 - 2 India, 1961—The Publication Division, Ministry of Information & Broadcasting.
 - 3 Imperial Gazetteer of India, Vol. III.
 - 4 First, Second & Third Five Year Plans, Planning Commission, Government of India.
 - 5 New Projects for Irrigation and Power in India, 1954, Central Board of Irrigation and Power, Popular series, Leaflet No. 3.
 - 6 Bhagirath—The Irrigation & Power Quarterly, Vol. XV, April 1968.

INDIA

MAJOR IRRIGATION SYSTEMS, 1961



CROPPING PATTERN OF IRRIGATED AND NON-IRRIGATED AREAS, 1960-61

Purpose : This map shows the percentage share of various crops in irrigated and non-irrigated areas in each of the States/Union Territories in India during 1960-61.

Method : The percentage share of various crops to the total irrigated and non-irrigated areas have been calculated for each of the States and Union Territories. In the centre of the State and Union Territory, two circles proportionate to irrigated and non-irrigated areas have been drawn one over the other. The top circle in black refers to the non-irrigated area and the bottom circle in blue indicates the irrigated area. These circles are then further subdivided into sectors proportionate to the acreages under various crops. The individual crops are shown by different types of hatchings as indicated in the legend to the map.

Salient Features : A cursory look at the map reveals that throughout the country, acreage under non-irrigated crops exceed those under irrigated crops. In 1960-61, the total area cropped is about 377 million acres, out of which nearly 69 million acres accounting for 18.26% is irrigated and the remaining 81.74% is non-irrigated.

Irrigated Crops : The extent of irrigated area is considerably high in the States of Madras (44.20%), Punjab (39.92%), Jammu and Kashmir (38.05%), Andhra Pradesh (29.38%) and Uttar Pradesh (25.49%). *Rice* is the predominant crop of irrigated areas in the eastern and southern States of the country where 70.00% to 100.00% of the areas under irrigation are devoted to rice. The Union Territories of Manipur and Nagaland record the highest percentage of irrigated area under rice (100.00%) followed by the States of Assam (93.38%), West Bengal (89.29%), Orissa (85.99%), Bihar (81.86%), Andhra Pradesh (79.27%), Kerala (76.22%), Madras (71.25%). The Union Territory of Tripura shows 82.76% of irrigated areas under rice. In Mysore and Madhya Pradesh, the area under rice accounts for 63.07% and 51.57% of irrigated area respectively.

Next to rice, *wheat* (including barley) has the largest share (15.19%) of irrigated area. In the north-western part of the country, wheat occupies a large proportion of irrigated area ranging from 28.90% in Punjab to 52.38% in Delhi. Delhi has by far the largest share (52.38%) followed by Uttar Pradesh (47.29%), Himachal Pradesh (40.36%), Rajasthan (32.35%) and Gujarat (29.73%). In Madhya Pradesh and Bihar wheat ranks next to rice among the irrigated crops and its proportions to the total area irrigated are 20.40% and 6.97% respectively.

Pulses rank third in respect of its percentage share (6.80%) among the irrigated crops in the country. Though, pulses do not hold the position among irrigated crops in acreage strength in any of the States/Union Territories but its proportion is considerably high in the States of Uttar Pradesh (17.13%), Punjab (13.38%), West Bengal (3.14%) and Orissa (3.05%).

Sugarcane occupying 5.98% of the total area irrigated, stands fourth in the list of irrigated crops in the country. Its highest proportion is visible in the State of Uttar Pradesh (15.78%) followed by the Union Territory of Delhi (14.29%) and the States of Maharashtra (12.71%) and Mysore (7.00%). In Uttar Pradesh and Mysore, sugarcane is the third ranking crop, while in Maharashtra and Delhi it stands second in order of percentage share of irrigated crops.

Next to sugarcane, *millets* (jowar, bajra, maize & ragi) are the crops which occupy fifth place among the irrigated crops in the country, its percentage share being 3.50%. Millets rank first in the irrigated cropping pattern of Maharashtra State (24.49%). A considerable share of irrigated acreage by millets can also be seen in the States of Gujarat (9.65%), Punjab (8.57%), Jammu and Kashmir (8.28%) and the Union Territory of Delhi (3.57%), though these crops stand third or fourth in acreage strength among irrigated crops.

Cotton (including jute mesta etc.) has the lowest percentage share (3.47%) of irrigated area in the country. In fact, Gujarat records the highest proportion of cotton among irrigated crops (13.34%) followed by Punjab (13.22%), Rajasthan (7.65%) and Madras (3.05%).

The percentage share of 'other crops' is 20.41% in the country.

Non-Irrigated Crops : The State of Madhya Pradesh records the highest proportion of non-irrigated area (94.84%) to the total cropped area of the State in the country (leaving aside the Union Territories of Andaman & Nicobar Islands; Laccadive, Minicoy and Amindivi Islands and Tripura where non-irrigated area is between 95.00% and 100.00%). Other States with a very high share of non-irrigated area in order are Maharashtra (93.52%), Gujarat (92.49%), Mysore (90.78%) and Rajasthan (87.50%).

Among the non-irrigated crops *millets* (jowar, bajra & ragi etc.) rank first in acreage strength in the country. It is grown in the States of Andhra Pradesh (50.69%), Rajasthan (49.31%), Maharashtra (43.29%), Mysore (39.71%), Jammu & Kashmir (38.74%), Madras (37.62%) and Gujarat (29.66%). In fact, in Andhra Pradesh, millets account for the highest proportion of non-irrigated areas in the country. In the Union Territories of Himachal Pradesh (36.24%), Delhi (33.17%) and the State of Punjab (19.47%), millets are the second predominant crop ranking next to pulses and wheat in land-occupancy strength of non-irrigated land respectively.

Next to millets, *pulses* occupy a high proportion (17.44%) of non-irrigated area in India. Pulses are predominantly non-irrigated crops in the Union Territory of Delhi (35.71%) and in the States of Punjab (35.24%), Uttar Pradesh (23.02%) and Madhya Pradesh (21.44%). Other States where pulses have a considerable share in the non-irrigated area are Bihar (25.49%), Rajasthan (23.23%), Andhra Pradesh (14.68%), Maharashtra (13.10%), Madras (10.17%), Jammu & Kashmir (9.53%) and Orissa (8.59%).

Rice is the third crop grown in the non-irrigated areas in the country having a percentage share of (17.13%). It is the leading non-irrigated crop in the State of West Bengal (67.86%), Assam (63.11%), Orissa (52.47%), Bihar (39.26%) and in the Union Territories of Manipur (96.28%), Nagaland (93.42%), Andaman & Nicobar Islands (69.56%) and Tripura (67.75%). It is also a significant non-irrigated crop in the States of Kerala (22.79%), Uttar Pradesh (22.74%) and Madhya Pradesh (21.07%) standing second among non-irrigated crops in acreage strength.

Next to rice comes *wheat* (including barley) in acreage strength under non-irrigated crops in the country. In the Union Territory of Himachal Pradesh, wheat (40.05%) is the domineering crop among non-irrigated crops. It stands second in the land-strength in the non-irrigated area in the State of Jammu & Kashmir (33.25%) and third in the State of Uttar Pradesh (19.55%), Punjab (18.12%) and in the Union Territory of Delhi (20.41%). It covers a considerable part of non-irrigated area in Madhya Pradesh too.

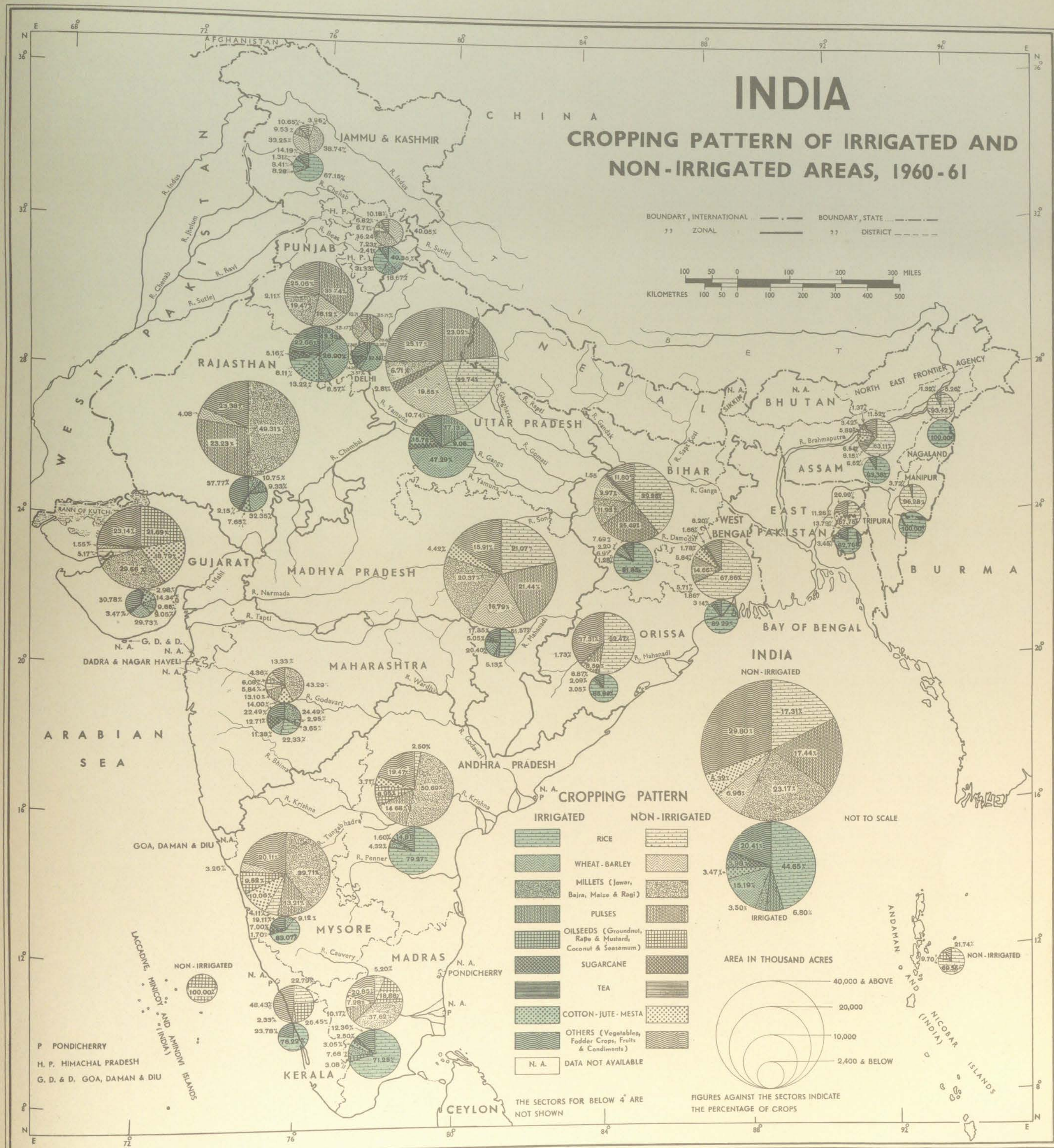
Cotton and *sugarcane* are the other two non-irrigated crops in the country having the proportional share of 5.32% and 0.60% respectively. Cotton is predominantly grown in Gujarat (18.79%), Maharashtra (14.00%) and Mysore (10.06%) having second place in the first two States and third in the latter among the non-irrigated crops. A small proportion of non-irrigated crop area is shared by sugarcane in the States of Uttar Pradesh (2.81%), Bihar (1.55%), Punjab (1.18%) and in the Union Territory of Delhi (1.02%).

Oilseeds, tea and *jute* are also grown as non-irrigated crops in the country. Oilseeds are predominant in Kerala (26.45%), Gujarat (21.69%), Madras (18.88%), Mysore (9.52%) and Andhra Pradesh (8.95%), while jute and tea are grown in the States of West Bengal and Assam accounting for 7.50% and 14.69% of the total non-irrigated crop acreage respectively.

Source : Agricultural Situation in India, Directorate of Economics and statistics, Ministry of Food and Agriculture, New Delhi.

INDIA

CROPPING PATTERN OF IRRIGATED AND NON-IRRIGATED AREAS, 1960-61



CROP REGIONS SHOWING AVERAGE GROSS VALUE OF OUTPUT PER ACRE OF CROPPED AREA, 1956-61

Purpose : In this map an attempt has been made to delineate the crop-regions by homogeneous combination of crops contributing to gross value of output per acre of cropped land during 1956-61.

Method : The gross value of agricultural output is calculated on the basis of the average production (during 1956-57 to 1960-61) of agricultural commodities viz., (a) Cereals and pulses—(rice, wheat and barley; millets including jowar, bajra, maize, ragi and small millets, gram and tur); (b) Oilseeds (groundnut, rape-seed and mustard, linseed, castorseed and sesamum); and (c) Plantation and commercial crops (tobacco, sugarcane, tea, coffee, rubber, coconut, jute, cotton and cashewnut). The prices used here are based on the simple average of wholesale prices of 1959 for some of the towns in each district.

For this map, the gross value of output per acre of cropped area for each district is obtained by dividing the gross value obtained from its cultivated crops including plantation crops by its total acreage under crops. The productivity indices thus measured are graded into four categories—two above (i) Rs. 400 and above (ii) Rs. 200.0-399.9; one nearer to (Rs. 100.0-199.9) and one below (< Rs. 100) the National Average (Rs.139). The districts are then shaded to show the regional variation in productivity from high to low by choropleth method. The major crop-regions are delineated by grouping the districts by their predominant crops which have the maximum share in the average gross value of output of the region and are differentiated by colours as shown in the index of the map. These major crop-regions are further subdivided into sub-regions, on the basis, of common crop-combination pattern. In the centre of each of the sub-regions one polygonal diagram is drawn to show the average gross value of output per acre of cropped area. In the centre of the diagram the gross value of output of the sub-region in rupees is inserted and the crop-combinations are indicated by coloured bars proportionate to the gross value shared by each crop radiating from each side of the polygon.

Salient Features : This map shows that the cropping pattern of the district or region has a great impact upon the gross value of agricultural output per acre of cropped area. The greater is the share of high value crops, the higher the gross value of output per acre of cropped area. According to the gradation of indices of agricultural productivity, the country may be divided into four regions—(i) Very high productivity regions showing the gross value Rs. 400.0 and above per acre of cropped area; (ii) High productivity regions exhibiting the gross value between Rs. 200.0 and 399.9; (iii) Regions of medium productivity where gross value varies from Rs. 100.0 to 199.9 and (iv) Regions of low productivity having the gross value below Rs. 100.0.

(i) **Very High Productivity Regions:** The gross value of agricultural output per acre of cropped area is the highest (Rs. 1,610) in Nilgiri district of Madras State coinciding with crop sub-region 58. This very high value is attributed to plantation crops—(tea and coffee) grown in this district, which accounts for more than 97 per cent of the gross value of its agricultural output. Similarly, the gross value per acre of cropped area is also very high in the sub-regions (No. 55,56,57 and 59) coinciding with tea-coffee growing districts of Lakhimpur, Sibsagar and Darrang in Assam, Jalpaiguri in West Bengal, Coorg and Chikmagalur in Mysore and Kottayam in Kerala. Other very highly productive agricultural districts are Alleppey, Quilon, Trivandrum and Ernakulam (crop sub-regions 21 & 60) in Kerala State where coconut and rice are the predominant crops and account for nearly 85% of the gross value of agricultural output of these districts. The districts of Kangra and Simla in Punjab (crop-regions 24 & 37) also show a gross value of output above Rs. 400.0, though cash crops like tea and coffee are grown here but nearly 95% share of the total gross value of these districts is derived from rice, wheat and millets.

(ii) **High Productivity Regions:** The areas having the gross value between Rs. 200.0 and Rs. 399.9 lie mainly in those parts where high valued

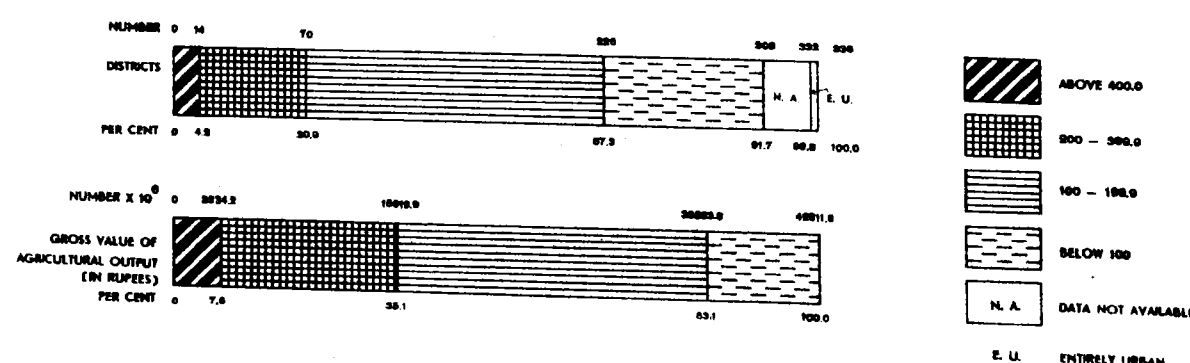
cash crops like coconut, sugarcane, tea, coffee, tobacco, oilseeds etc. are grown along with the major food crops, such as, rice, wheat and millets. A long strip growing rice, coconut, rubber, coffee, tea, sugarcane and millet along the west coast plain stretching from Kolaba district of Maharashtra to Cannanore district of Kerala—embracing sub-regions 21,22,23 & 60—falls under highly productive areas. The second important high value areas are the rice, tobacco, oilseeds, sugarcane and millets-growing districts of Madras and northern Andhra Plain lying in the east coast plain (crop sub-regions 15,17 & 18). The tobacco-millets and rice growing district of Kaira in Gujarat, the rice-millets producing districts of Srinagar and Anantnag in Jammu and Kashmir and the wheat-sugarcane-millets growing districts of Punjab plains and Saharanpur, Muzaffarnagar and Bijnor districts of Uttar Pradesh are the areas of high productivity having the gross value of output between Rs. 200.0-399.9 (crop sub-regions 24, 38, 48 and 54). Similarly the rice-tea-jute growing areas of north Bengal and Brahmaputra valley and Mizo Hills and Cachar districts of Assam and the rice-jute growing districts of south West Bengal also show a high gross value of agricultural output per acre of cropped area (crop sub-regions 1, 2, 4, 7 & 56).

(iii) **Medium Productivity Regions:** The gross value of agricultural output per acre of cropped area is neither high nor low, i.e., from Rs. 100.0 to Rs. 199.9 in the areas where cash crops compete with areas of food crops. These are the wheat-growing areas of Southern Punjab (irrigated) and irrigated areas of Ganganagr district (crop sub-regions 38, 39), Ganga-Yamuna *doab* and Rohilkhand Plains in Uttar Pradesh (crop sub-regions 40, 46 and 48) Rajasthan and Madhya Bharat Pathar (crop sub-regions 45), Bundhelkhand Plateau, eastern districts of Malwa Plateau and Aravalli and Vindhayan Scarplands (crop sub-regions 42 & 43). In the above areas, though wheat is the major crop but millets, pulses, oilseeds and sugarcane are other crops which have considerable share in the gross value of the output. The second area with medium productivity of agricultural output embraces eastern Uttar Pradesh, Bihar, part of West Bengal, Assam Plateau, Orissa, Mahanadi Basin, Dandakaranya, northern part of Telangana Plateau, Southern Andhra Plains and southern districts of Tamilnad Plains, where rice is grown pre-eminently and sugarcane, jute, oilseeds and millets have minor importance (crop sub-regions 5, 9, 6, 8, 11, 12, 13, 14, 16, 19, 41, 47 & 48). The third area where the gross value also ranges from Rs. 100.0 to Rs. 199.9 includes those tracts where millets have a higher share in the gross value of agricultural output per acre of cropped area and other crops like oilseeds, sugarcane, tobacco, cotton and rice have lesser shares. These are the western districts of Maharashtra coinciding with Western Ghats (sub-region 28), southern districts of Karnataka and Telangana Plateaus (sub-regions 26 & 50) and eastern foot hills of the Aravalli Range (sub-regions 23 & 31). The wheat-millets-rice growing district of Ladakh in Jammu and Kashmir (sub-region 35) also falls in this category.

(iv) **Low Productivity Regions:** The areas, where food crops dominates over cash crops, the gross value of agricultural output per acre of cropped area decreases. The areas showing the low gross value of output (below Rs. 100.0) coincide with the millets growing arid tracts of Rajasthan and the semi-arid regions lying in the western parts of the country having an annual rainfall below 80 cms. The worth-mentioning tracts are in the Maharashtra Plateau, northern Karnataka Plateau, in the western Malwa Plateau and Satpura Range, the Rajasthan Baggar and eastern Rajasthan Uplands and the districts of Kutch, Banaskantha, Mehsana, Sabarkantha of Gujarat. These areas have neither adequate rainfall nor sufficient irrigational facilities (crop sub-regions 27, 28, 29, 30,31,32 & 52).

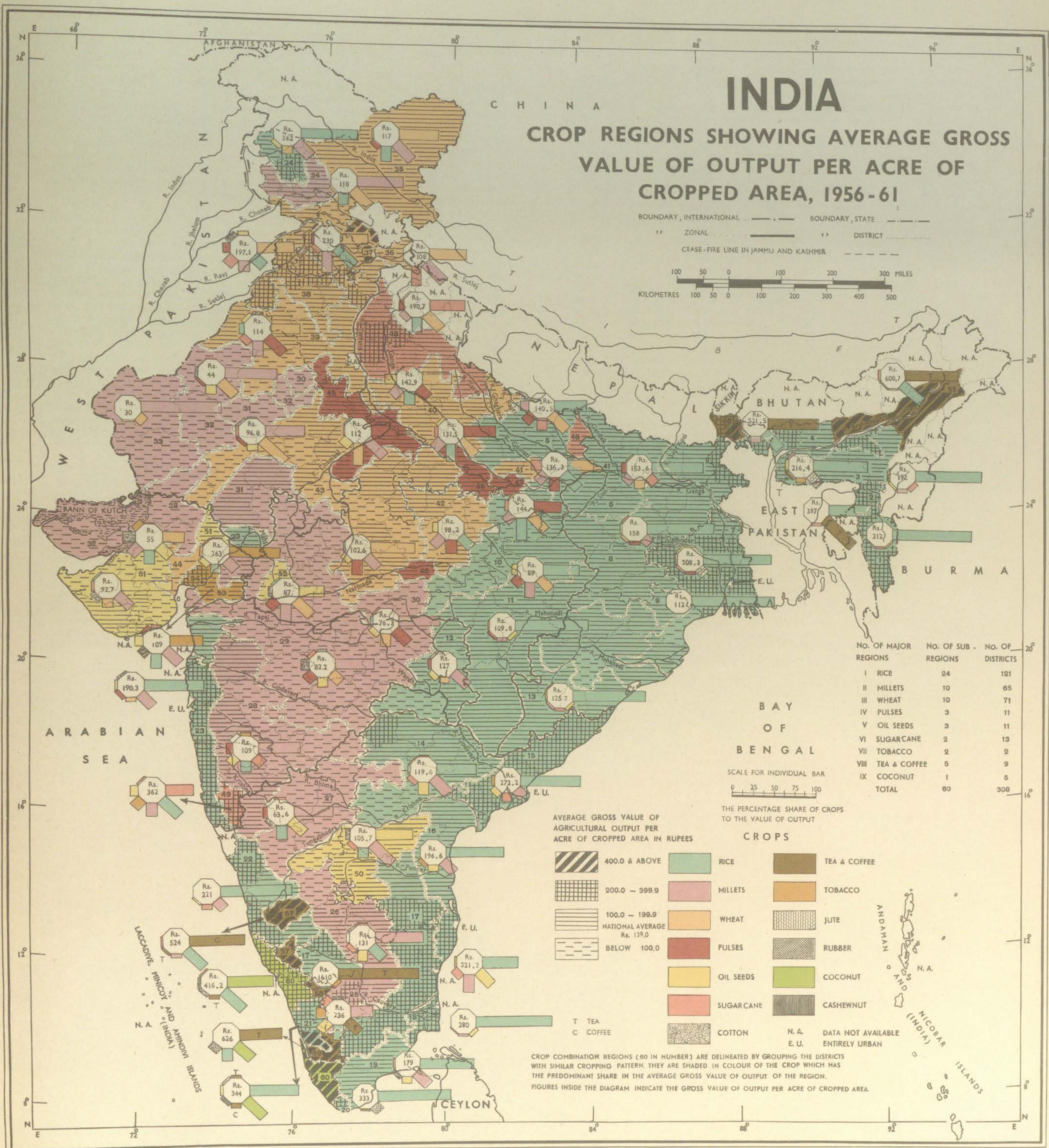
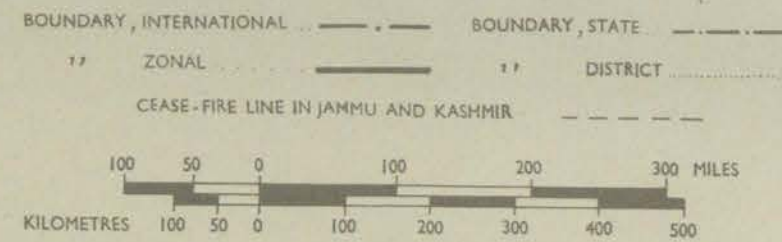
The district of Jodhpur in Rajasthan records the lowest gross value (Rs. 13) in the country followed by the district of Bikaner, Churu, Barmer, Jaisalmer in the same State. These districts correspond to the desert area where millet (bajra) is the predominant crop accounting for more than 65% of its total gross value of output (crop sub-region 32, 33, 31).

Source : Agricultural Situation in India, Ministry of Food & Agriculture, New Delhi.



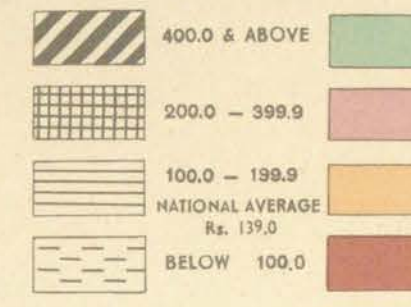
INDIA

CROP REGIONS SHOWING AVERAGE GROSS VALUE OF OUTPUT PER ACRE OF CROPPED AREA, 1956-61



	NO. OF MAJOR REGIONS	NO. OF SUB-REGIONS	NO. OF DISTRICTS
I RICE	24		121
II MILLETS	10		65
III WHEAT	10		71
IV PULSES	3		11
V OIL SEEDS	3		11
VI SUGARCANE	2		13
VII TOBACCO	2		2
VIII TEA & COFFEE	5		9
IX COCONUT	1		5
TOTAL	60		308

AVERAGE GROSS VALUE OF AGRICULTURAL OUTPUT PER ACRE OF CROPPED AREA IN RUPEES

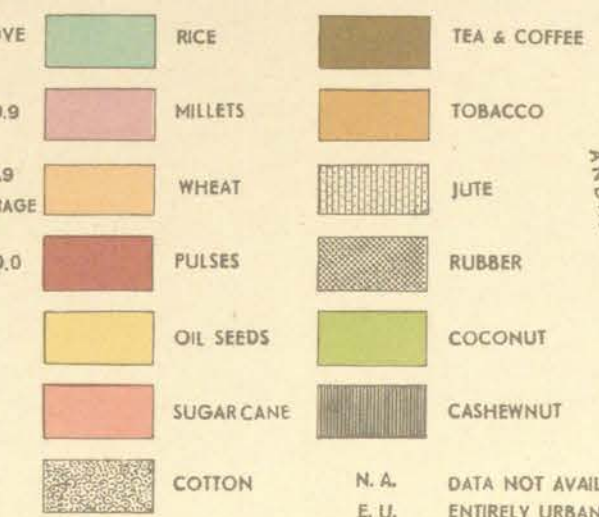


SCALE FOR INDIVIDUAL BAR



THE PERCENTAGE SHARE OF CROPS TO THE VALUE OF OUTPUT

CROPS



CROP COMBINATION REGIONS (60 IN NUMBER) ARE DELINEATED BY GROUPING THE DISTRICTS WITH SIMILAR CROPPING PATTERN. THEY ARE SHADED IN COLOUR OF THE CROP WHICH HAS THE PREDOMINANT SHARE IN THE AVERAGE GROSS VALUE OF OUTPUT OF THE REGION. FIGURES INSIDE THE DIAGRAM INDICATE THE GROSS VALUE OF OUTPUT PER ACRE OF CROPPED AREA.

CROP REGIONS SHOWING PROPORTIONATE DISTRIBUTION OF AREAS UNDER CROPS, 1958-59

Purpose : This map shows the crop combination regions expressed by the proportionate use of lands under different crops during 1958-59.

Method : The crops grown in the country fall under two broad categories—Food and Commercial crops. Food crops—rice, wheat and barley, millets (bajra, jowar and ragi), maize and grams are shown by vertical hatching of various thicknesses according to their acreage strength. Commercial crop—groundnut, cotton, jute, sugarcane, oilseed, spices, tobacco, tea, coffee and rubber are shown by flat colours of different intensity according to their share of lands. Among these commercial crops, rubber, tea and coffee are plantation-crops. Lands under commercial crops such as spices, oilseeds, sugarcane, jute, rubber and tobacco hardly exceed 15 per cent of the total gross area sown, while those under cotton, tea, coffee and groundnut cover even more than 50 per cent of the total area sown. Proportions of lands under the first category of commercial crops are grouped into four ranges, while those under the second category are grouped into three ranges as shown in the legend of the map.

Areas where, no commercial crops grow are kept blank.

Salient Features : Among various crops grown in the country, rice ranks first in the eastern region and coastal areas. Wheat ranks first in the north-western part of the Great Plain. Millets rank first in the western part of the country where rainfall is below 100 cms. comprising Rajasthan, Maharashtra and Mysore (excluding their coastal districts), Kutch, Saurashtra, Andhra Plateau (except Nizamabad and Karimnagar districts) and Tamilnad Plateau. Other than these three major crop zones, there are four small specialised crops areas where either gram (south Punjab Plain including Ganganagar and Alwar districts of Rajasthan) or maize or groundnut or cotton ranks first in their crop list.

I. Rice Zone : The rice-growing area which coincides with the alluvial northern and coastal Plains having annual rainfall of 100 cms. and more shows eleven types of crop-combinations. Rice combines with wheat and sugarcane in the Avadh Plain, rice with millets and oilseeds in Chotanagpur Plateau of Bihar, in Plateau part of Orissa, in Krishna-Godavari deltas and in southern half of Konkan Coast. Rice combines with millets and cotton in southern part of Tamilnad and northern part of Konkan Coasts. The crop-combination of rice, wheat and oilseeds is visible in the eastern part of Vindhyan Scarplands and that of rice, oilseeds and millets is in the Orissa Hills and Bastar Plateau. In Karnatak Coast rice is grown with oilseeds and sugarcane. Rice combines with oilseeds and wheat in the eastern part of Madhya Pradesh and with millets and groundnut in Panchmahals district of Gujarat, northern part of Madras coast from Chingleput district to Thanjavur district and northern Andhra Coast.

Rice combines with millets, maize, gram, jute, pulses, oilseeds and tea in the humid parts of the country. Here wheat disappears from the crop list and commercial crops like jute, tea and sugarcane, coconut, rubber and spices assume importance. Rice combines with tea and oilseeds in the Upper Assam Valley, while it is grown with jute and oilseeds in the Lower Assam Valley,

Tripura and in the northern coastal districts of Orissa. Rice, jute and gram are grown in the Bhagirathi delta in West Bengal. In Kerala coast rice combines with spices, coconut and rubber.

II. Wheat Zone : Wheat growing area is less extensive than the rice growing area. It embraces the north-western part of the Great Plain. Only five categories of crop-combinations are visible in this zone. In Rohilkhand Plain of Uttar Pradesh wheat is grown in combination with rice and gram, while in the Kumaun hill region, hill districts of Himachal Pradesh and Punjab, wheat usually combines with millets, maize and rice. In southern part of Ganga-Yamuna *doab* area wheat is grown with gram and millets and the same crop-combination is repeated in part of Malwa Plateau and southern Bundelkhand region. In the irrigated districts of Upper Ganga-Yamuna *doab* wheat is grown in combination with sugarcane and millets. In the northern districts of Punjab Plain wheat is grown with gram, maize or rice.

III. Millet Zone : Millet zone is bigger than the wheat zone but smaller than the rice zone in area but its crop-combinations differentiate seven sub-regions—(i) southern part of Telangana Plateau of Andhra Pradesh, Karnatak of Mysore State and the Tamilnad Plateau of Madras State form one sub-region with a combination of millets, rice and oilseeds or groundnut; (ii) millets combine with coffee in the Nilgiri district of Madras and Coorg, Chikmagalur and Hassan districts of Mysore State; (iii) the northern part of Karnatak Plateau and eastern districts of Kathiawar Peninsula are the areas where millets are grown in combination with groundnut and cotton; (iv) the Upper Bhima and Krishna basin of Maharashtra Plateau exhibit crop-combination of millets, groundnut and oilseeds; (v) millets are grown with wheat and cotton in Malwa Plateau and adjacent Rajasthan Plain; (vi) the north-eastern districts of Rajasthan grow millets with wheat and gram and (vii) the arid plain of Rajasthan grows millets with oilseeds.

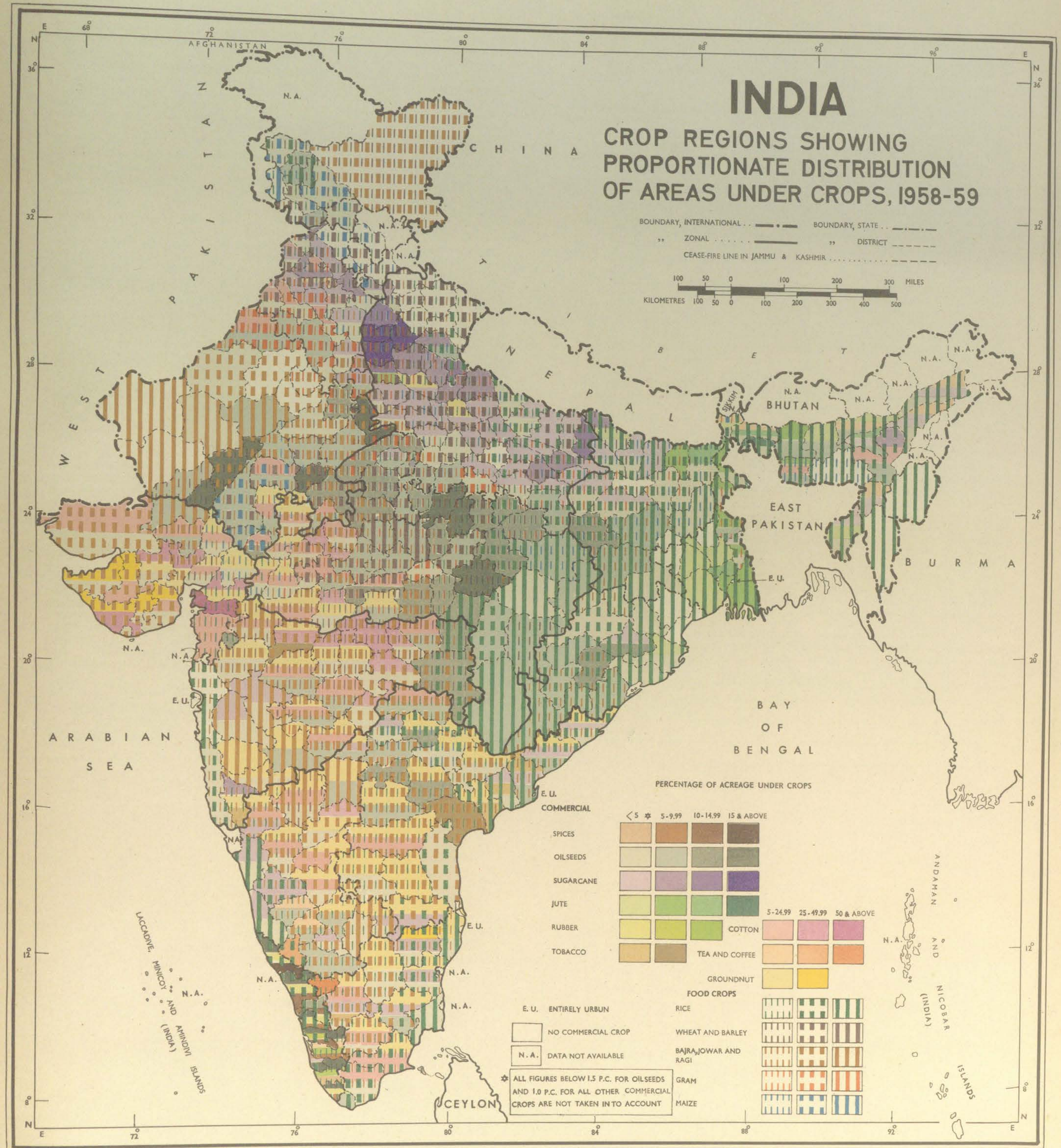
IV. Gram Zone : The dry southern Punjab Plain and its adjacent Ganganagar district of Rajasthan, Mathura and Aligarh districts of Uttar Pradesh, North Punjab Plain rugged Bundelkhand Plateau are the main gram-growing areas. Gram is grown in combination with wheat and millets.

V. Maize Zone : The forest and hill soils of Kashmir Himalayas and the hill districts embracing Aravalli hills grow maize as the predominant crop. Next to maize are wheat, gram and rice which are also grown in this zone in combination with maize.

VI. Groundnut Zone : Three western districts of Saurashtra and the district of Sabarkantha in north Gujarat form the main groundnut growing area in the country. Other crops which are grown with groundnut are millets and cotton.

VII. Cotton Zone : In Gujarat Plain, Maharashtra Plateau and Western part of Madhya Pradesh, the *regur* soils grow cotton in combination either with rice or millets, groundnut or wheat. In the ferruginous red soil area in southern peninsular plateau again cotton combines with rice and millets. In the irrigated plain of Punjab, cotton is grown with wheat pulses and oilseeds.

Source : Agricultural Situation in India, Ministry of Food & Agriculture, New Delhi.



GROSS VALUE OF AGRICULTURAL OUTPUT PER CULTIVATING HOUSEHOLD, 1960-61

Purpose : This map shows the gross value of agricultural output per cultivating household in each of the districts of India during 1960-61. When a household cultivates land owned or held from Government, from private persons or institutions for payment in money, kind or share, that household is defined as 'Cultivating household'.

Method : Gross value of agricultural output (in rupees) per cultivating household is obtained by dividing the gross values accruing from cultivated crops excluding plantation crops by the total number of cultivating households. The districtwise figures of gross value are arranged into six ranges—three above, one nearer to and two below the National Average (Rs. 850). All the districts are hatched from high to low grade corresponding to high to low values as given in the index of the map.

Salient Features : There seems a strong correlation between the gross value of agricultural output per cultivating household and the cropping pattern. The higher the value of the crops grown, the larger is the monetary gain of the cultivating households. Accordingly the States which grow commercial crops other than plantation crops in abundance along with food crops show the high gross value of agricultural output per cultivating household. They are the States of Punjab (Rs. 2,092), Kerala (Rs. 1,334), Gujarat (Rs. 1,025), Andhra Pradesh (Rs. 1,012), Madras (Rs. 1,003), Maharashtra (Rs. 974) and West Bengal (Rs. 971). On the other hand the States where cash crops hardly find any place in the list of crops grown, show low gross value of agricultural output per cultivating household, such as, the States of Jammu & Kashmir (Rs. 507), Orissa (Rs. 510), Bihar (Rs. 551), Uttar Pradesh (Rs. 700) and Rajasthan (Rs. 733).

Areas recording a very high gross value of agricultural output (Rs. 2,751 and above) may be identified with the districts leading in production of wheat, millets, pulses, oilseeds, sugarcane and cotton. The district of Ferozepur in Punjab shows the highest gross value—Rs. 3,439 followed by the districts of Ambala (Rs. 3,287) and Ludhiana (Rs. 2,889) of the same State.

The districts which rank next in high gross value of agricultural output per cultivating household varying from Rs. 1,551 to Rs. 2,750 grow high valued commercial crops along with food crops. These are the millets-groundnut-cotton growing districts of Gujarat embracing the western part of Kathiawar Peninsula, the coconut-spices-rice growing districts of Kerala State and rice-tobacco growing district of Coorg (Rs. 1,620) in Mysore. Similarly the wheat, millets, pulses, sugarcane and oilseeds growing areas in Punjab (excluding the southern districts of Hissar, Mahendragarh, Gurgaon and Bhatinda), Ganganagar district of Rajasthan, Muzaffarnagar, Saharanpur and Meerut districts of Uttar Pradesh show a high value of agricultural output per cultivating household. The other areas of a similar high gross value are the rice-tobacco-groundnut growing districts of Andhra Pradesh lying in Krishna and Godavari deltas, wheat-millets-pulses growing district of Vidisha in Madhya Pradesh and the rice-pulses-sugarcane growing district of Birbhum in West Bengal.

As the food crops increase in acreage at the expense of cash crops, the gross value of agricultural output per cultivating household declines. The income further declines either in the regions where commercial crops are less remunerative though acreage may be extensive or in the regions where crops may be remunerative but acreage is very limited. For example, cotton is a less

remunerative crop, but it is extensively cultivated in the *regur* soils of Maharashtra and the western part of Madhya Pradesh where the gross value of output per cultivating household is relatively low ranging between Rs. 951 and Rs. 1,550. The cotton-groundnut-millets growing areas of southern Andhra Pradesh, littoral part of Madras State and the Western districts of Mysore also show a low value of output. It is worth mentioning here that the areas where a small proportion of land is devoted to commercial crops, even if they are high valued crops, show a low value of output per cultivating household. These are the jute growing district of West Bengal, the oilseeds growing areas in Bundelkhand Uplands and Madhya Bharat Pathar.

The gross value of agricultural output per cultivating household is found nearer to the National Average (Rs. 850) where cash crops compete with food crops for lands. These are the wheat-sugarcane-millets growing tracts of the Ganga-Yamuna *doab* and Rohilkhand Plains excluding the western districts of Saharanpur, Muzaffarnagar, Meerut etc.; the wheat-oilseeds growing areas of Chambal valley; the millets-oilseeds growing area of Rajasthan Bagar, Rajasthan Uplands, Vindhyan Scarplands; cotton-oilseeds-millets growing area of Gujarat, eastern part of Karnataka Plateau and Tamilnad Uplands; the oilseeds-rice growing area of Dandakaranya and Satpura hills and the rice-jute-sugarcane growing area in Bhagirathi Delta, Assam Valley and north-eastern Plain of Bihar. In all these areas, the gross value of agricultural output per cultivating household ranges between Rs. 651 and Rs. 950.

The areas showing gross value of output below the National Average (Rs. 501—650) embrace the middle Ganga Valley; Chotanagpur Plateau; Orissa hills and Plateaus; Coastal districts and Baghelkhand Plateau. These areas are pre-eminently the rice growing tracts though a few commercial crops of minor importance, such as, sugarcane and oilseeds are grown.

It is also worth noticing that the gross value is low in those areas which are mostly inhabited by tribal population who do not care much in getting out-turn more from their tilled lands especially in Southern Bihar, Orissa, south-eastern Madhya Pradesh and Shillong Plateau.

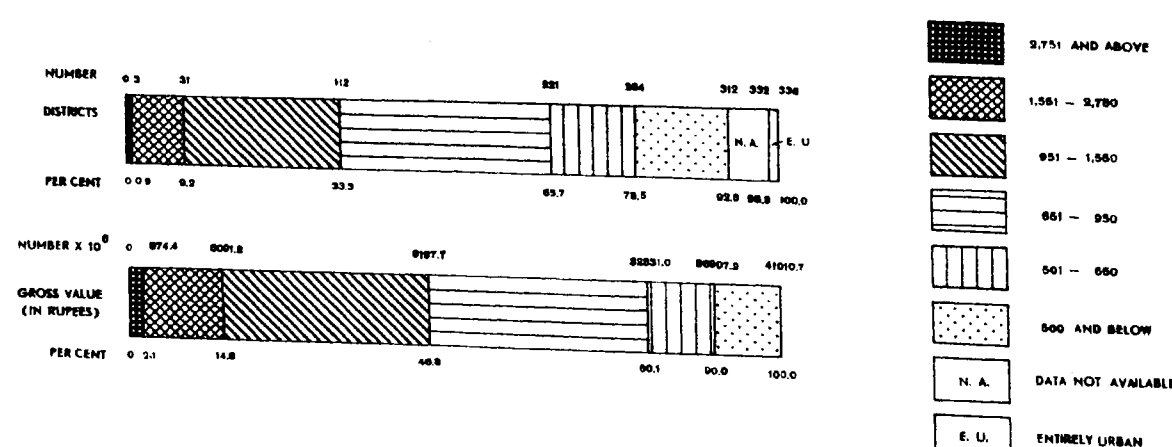
The areas where food crops domineer over cash crops in acreage, show further decline in gross value of agricultural output per cultivating household (Rs. 500 & below). For example, the arid districts in Western Rajasthan, Banaskantha district of Gujarat State where millets are the main crops and oilseeds are the minor crops, show the gross value of output per cultivating household between Rs. 197 and Rs. 495. Similarly in the State of Jammu & Kashmir, some districts in the Union Territory of Himachal Pradesh, in Shillong Plateau of Assam where rice and millets predominate over cash crops, the gross value is recorded below Rs. 500.

The areas where cash crops are completely absent record a very low gross value of agricultural output per cultivating household. The millets growing district of Bikaner in Rajasthan shows the lowest gross value of output in the country (Rs. 197) followed by the rice-millets growing district of Nilgiri (Rs. 223) in Madras. Other districts which are having a very low gross value are the rice growing district of United Khasi & Jaintia Hills (Rs. 225) in Assam, the millets growing district of Churu (Rs. 229) in Rajasthan, Ladakh (Rs. 243) and Doda (Rs. 305) districts in Jammu & Kashmir State and wheat growing district of Hissar (Rs. 246) in Punjab.

Sl. No.	State/Union Territory	Gross value of agricultural output (in Rupees)	Households engaged in cultivation and household industry (based on 20% sample)	Gross value of agricultural output per household
1	2	3	4	5
INDIA	...	41,010,651,251	9,644,311	850
STATES				
1	Andhra Pradesh	3,941,399,426	779,235	1,012
2	Assam	1,108,576,305	300,125	739
3	Bihar	3,185,838,817	1,157,344	551
4	Gujarat	1,936,204,722	377,897	1,025
5	Jammu and Kashmir	248,863,600	98,187	507
6	Kerala	1,349,043,135	202,262	1,334
7	Madhya Pradesh	3,767,213,021	854,956	881
8	Madras	3,262,191,252	650,805	1,003
9	Maharashtra	3,646,287,053	748,470	974
10	Mysore	1,935,304,060	500,916	773
11	Orissa	1,231,888,126	483,505	510
12	Punjab	3,493,897,162	333,998	2,092
13	Rajasthan	1,923,616,120	524,937	733
14	Uttar Pradesh	6,760,309,544	1,896,144	700
15	West Bengal	2,970,465,150	611,539	971
UNION TERRITORIES				
1	Himachal Pradesh	122,839,791	43,500	568
2	Tripura	63,517,148	9,381	1,354
3	Nagaland	63,196,819	71,110	889

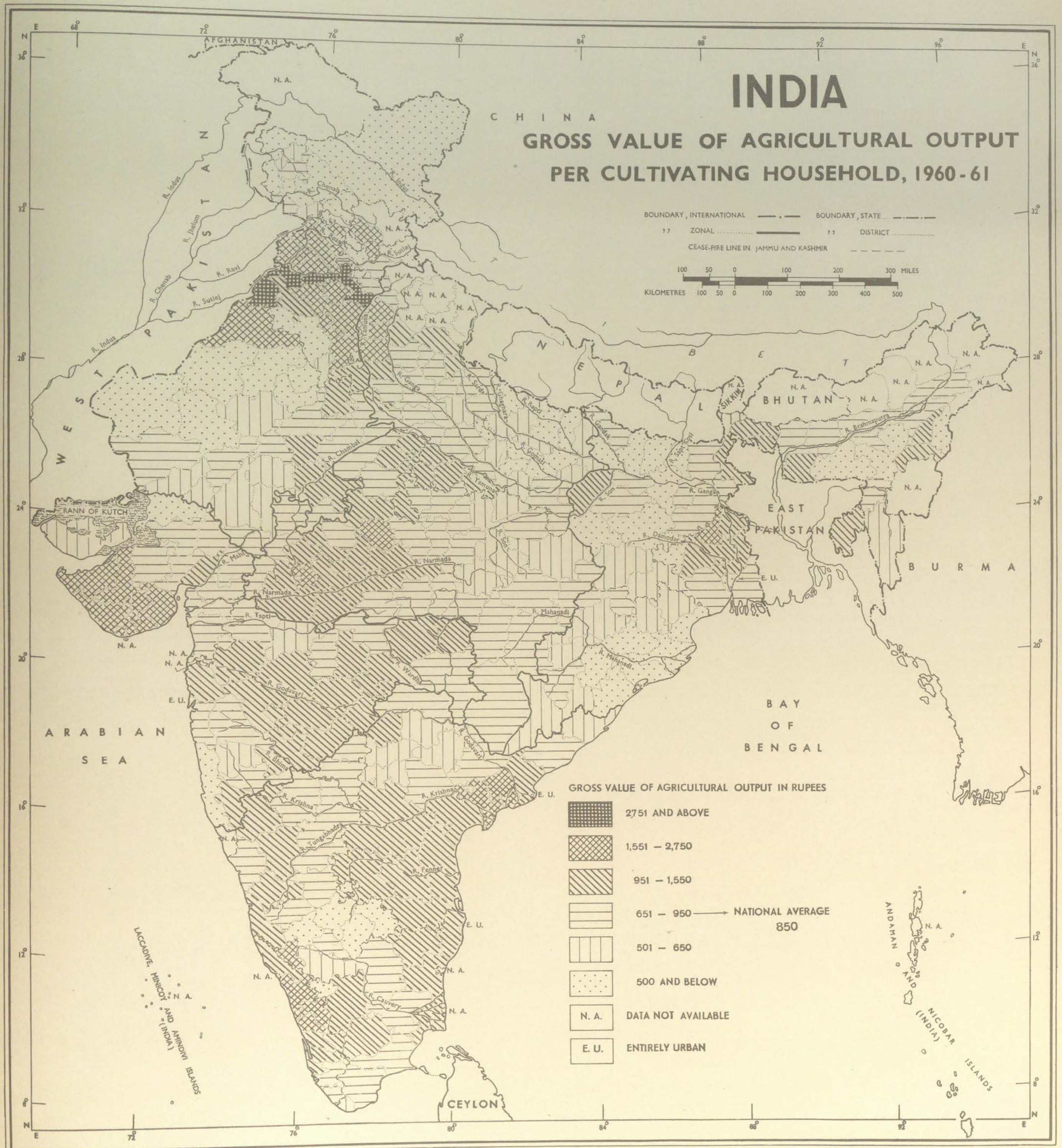
Note : Data for other Union Territories and other areas are not available.

Source : 1 Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.
2 Agricultural Situation in India and Agricultural Prices, Directorate of Economics and Statistics, Ministry of Food & Agriculture, New Delhi.



INDIA

GROSS VALUE OF AGRICULTURAL OUTPUT PER CULTIVATING HOUSEHOLD, 1960-61



MAP 75

GROSS VALUE OF AGRICULTURAL OUTPUT PER CULTIVATOR, 1960-61

Purpose : This map depicts the gross value of agricultural output per cultivator in each of the districts of India during 1960-61.

“For purpose of the Census, a person is working as cultivator if he or she is engaged either as employer, single worker or family worker in (a) cultivation of land or supervision or direction of cultivation of land owned or held from Government (b) cultivation of land or supervision or direction of cultivation of land held from private persons or institutions for payment in money, kind or share is defined as *cultivator* .

Method : Districtwise figures of gross value of agricultural output (in rupees) per cultivator are obtained by dividing the gross values accruing from cultivated crops other than tea, coffee and rubber by the total number of cultivators. Figures thus obtained are arranged into six ranges; two above, one nearer to and three below the National Average (Rs. 414) and all the districts are hatched from deep to light shades corresponding to their values as indicated in the legend.

Salient Features : This map also shows more or less the identical features as map No. 74. The States where cash crops predominate over food crops, the gross value of agricultural output per cultivator is high, while in the States where cash crops are either of minor importance or completely absent and food crops cover a large acreage, the gross value is found low. The States of Kerala (Rs. 1,145), Punjab (Rs. 874), West Bengal (Rs. 666), Andhra Pradesh (Rs. 526) and Madras (Rs. 505) which grow high valued commercial crops, such as, coconut, spices, oilseeds, jute, coffee, tobacco record a high gross value of agricultural output per cultivator, while the Union Territory of Himachal Pradesh (Rs. 183), the State of Jammu & Kashmir (Rs. 216), Union Territory of Tripura (Rs. 226) and the States of Rajasthan (Rs. 273), Orissa (Rs. 283) and Bihar (Rs. 307) show a low gross value of output per cultivator because hardly any commercial crop is grown there.

The rice-coconut-oilseeds-tobacco growing district of Trichur in Kerala shows the highest gross value of agricultural output per cultivator (Rs. 1,625) followed by the wheat-millets-sugarcane-pulses growing district of Ambala (Rs. 1,583) in Punjab. The other districts which record a gross value of agricultural output per cultivator (above Rs. 1,350) are the rice-jute growing district of Birbhum in West Bengal, rice-coconut-rubber-oilseeds growing districts of Kozhikode and Alleppey in Kerala and wheat-pulses-cotton-oilseeds growing districts of Ferozepur in Punjab.

The areas which show a high gross value of agricultural output per cultivator ranging between Rs. 751 and Rs. 1,350 are mainly those districts which grow highly remunerative crops alongwith food crops and support less number of cultivators. Some districts are found in Punjab, western part of Uttar Pradesh (Saharanpur, Muzaffarnagar, Bijnor and Meerut), north-western part of Rajasthan (Ganganagar district) where wheat, millets, sugarcane, oilseeds, pulses and cotton are the pre-eminent crops. Similarly, the rice-spices-coconut growing districts of Kerala and the rice-millets-tobacco-sugarcane growing districts of East Godavari, West Godavari and Krishna of Andhra Pradesh show a high value of agricultural output per cultivator. The other

areas of a similar high gross value are the districts of Jamnagar and Kaira in Gujarat, Thanjavur in Madras, Kurnool in Andhra Pradesh, Coorg in Mysore, Burdwan and Nadia in West Bengal and Vidisha in Madhya Pradesh.

The gross value of agricultural output further declines as the food crops increase in acreage at the expense of cash crops. Therefore, the rice-millet-oilseeds growing coastal districts of Andhra Pradesh and Madras, millets-cotton-oilseeds growing districts lying in eastern part of Maharashtra Plateau and Satpura Range, the eastern districts of Mysore confronting the western Karnataka Plateau and the western districts of Gujarat lying in Kathiawar Peninsula show a gross value of agricultural output per cultivator varying from Rs. 451 to Rs. 750 which is above the National Average. The wheat-sugarcane growing districts of Uttar Pradesh lying in Rohilkhand Plain and Ganga-Yamuna *doab*, the wheat-oilseeds growing districts of Bundelkhand Plateau and Malwa Plateau and the rice-jute growing districts of West Bengal also fall under the same range of gross value. Other districts falling in this range are Sangrur, Bhatinda, Rohtak in Punjab, Shahabad in Bihar, Baroda in Gujarat, Coimbatore, Madurai in Madras and Cachar in Assam.

The areas having a gross value of agricultural output per cultivator nearer to the National Average (Rs. 414) are the millets-oilseeds growing districts of Rajasthan Bagar (southern and northern parts), Madhya Bharat Pathar; wheat-sugarcane growing districts of *trans* Ganga-Gomati plain of Uttar Pradesh; rice-oilseeds growing districts lying in Vindhyan scarplands; millets-cotton-oilseeds growing districts in Satpura Range and north-western and eastern part of Maharashtra Plateau, the northern Gujarat Plains, Karnataka and Telangana Plateau and the rice-oilseeds growing coastal and western hill districts of Orissa, Tamilnad Uplands and Eastern Ghats in Madras. The Assam Valley, northern Bihar Plain and coastal districts of Mysore where rice, jute or sugarcane are grown significantly also show a medium gross value of agricultural output per cultivator.

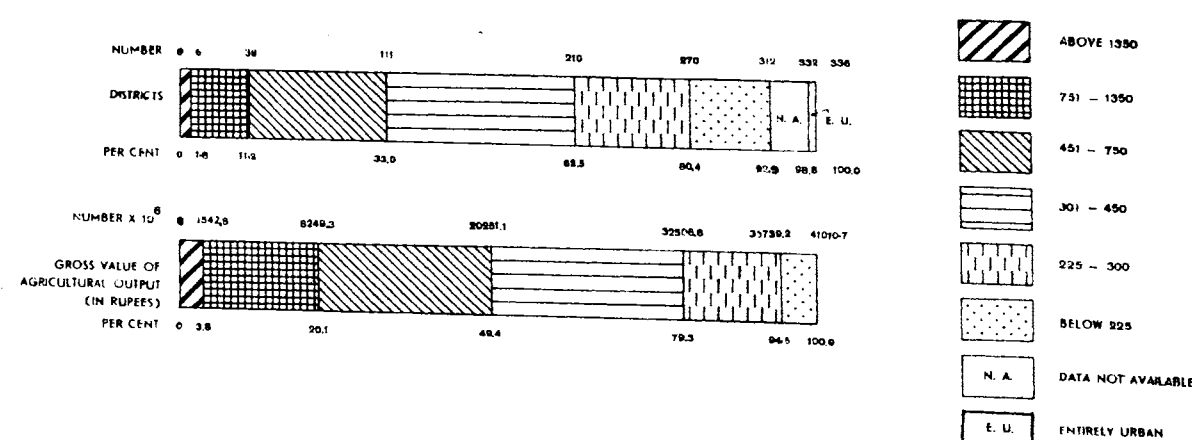
The areas which record the gross value below the National Average embrace the eastern districts of Uttar Pradesh, Baghelkhand Plateau, Chotanagpur Plateau, plateau and hills of Orissa and Dandakaranya area where rice is grown pre-eminently alongwith some minor cash crops, such as, sugarcane and oilseeds. The other areas where the gross value varies from Rs. 225 to Rs. 300 are the State of Jammu and Kashmir; the Union Territory of Himachal Pradesh; arid districts of Rajasthan; the Aravalli Range and the eastern Rajasthan Uplands; the southern districts of Mysore and the Assam Plateau where food crops domineer over cash crops in acreage. Millets and rice are the main crops grown in those areas. It is also worth mentioning that most of the above areas are inhabited by tribal population who do not get much out-turn from their tilled lands.

A very low gross value of agricultural output per cultivator is recorded in those areas where cash crops are completely absent. The millets growing district of Churu in Rajasthan shows the lowest gross value of agricultural output per cultivator (Rs. 72) followed by the district of Bikaner (Rs. 84). Among the rice growing districts, United Khasi & Jaintia Hills records the lowest value (Rs. 97) in Assam followed by Tuensang district in Nagaland (Rs. 98).

Sl. No.	State/Union Territory	Gross value of agricultural output (in Rupees)	Number of cultivators	Gross value per cultivator
1	2	3	4	5
INDIA	...	41,010,651,251	99,072,866	414
STATES				
1	Andhra Pradesh	3,941,399,426	7,486,819	526
2	Assam	1,108,576,305	3,323,500	334
3	Bihar	3,185,838,817	10,361,971	307
4	Gujarat	1,936,204,722	4,519,060	428
5	Jammu and Kashmir	248,863,600	1,153,403	216
6	Kerala	1,349,043,135	1,178,103	1,145
7	Madhya Pradesh	3,767,213,021	10,611,508	355
8	Madras	3,262,191,252	6,457,833	505
9	Maharashtra	3,646,287,053	8,737,075	417
10	Mysore	1,935,304,060	5,806,664	333
11	Orissa	1,231,888,126	4,353,012	283
12	Punjab	3,493,897,162	3,996,731	874
13	Rajasthan	1,923,616,120	7,055,079	273
14	Uttar Pradesh	6,760,309,544	18,428,376	367
15	West Bengal	2,970,465,150	4,458,779	666
UNION TERRITORIES				
1	Himachal Pradesh	122,839,791	670,589	183
2	Tripura	63,517,148	280,881	226
3	Nagaland	63,196,819	193,483	327

Note: Data for the remaining Union Territories and Other Areas are not available.

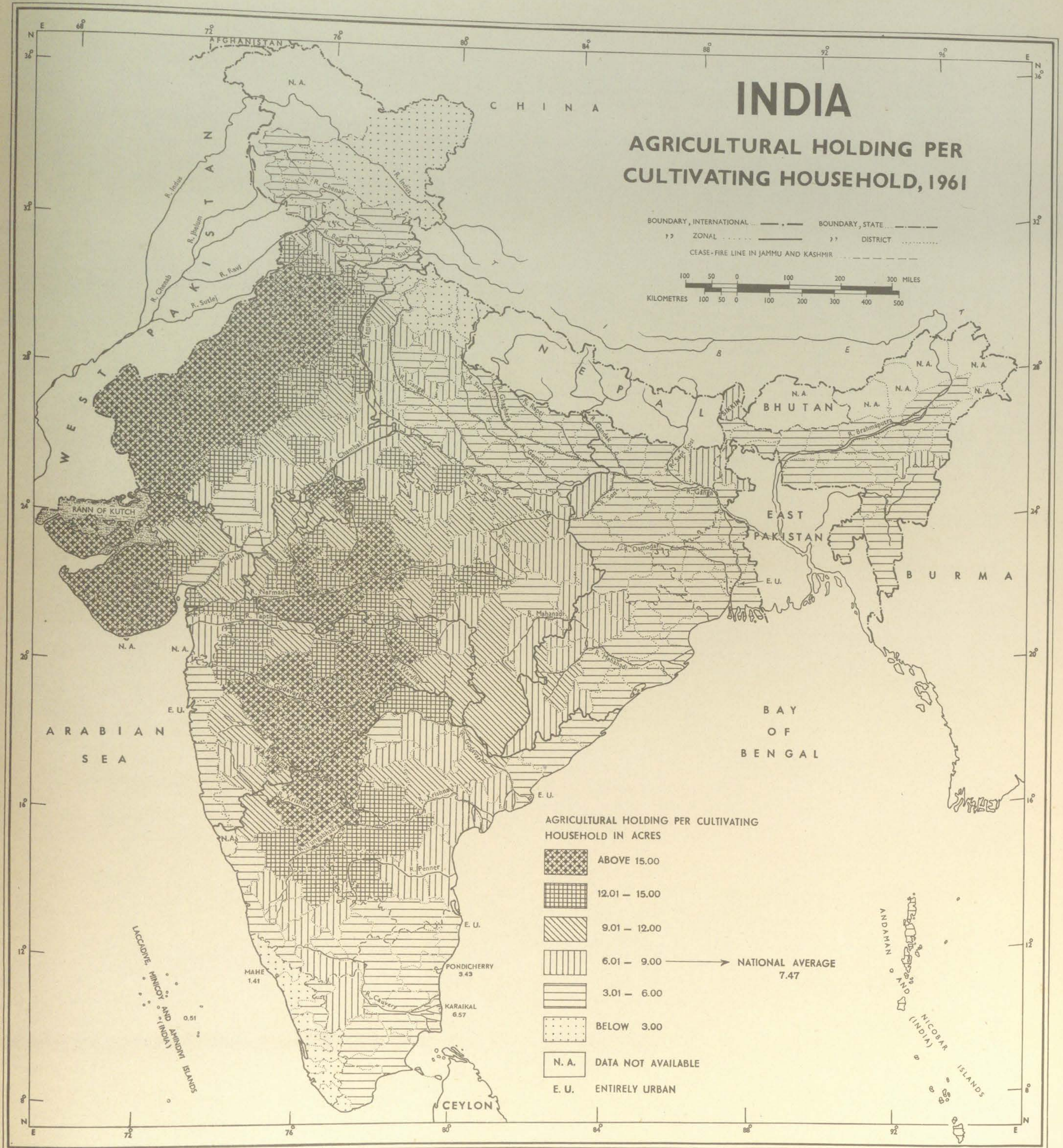
Source: 1 Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.
2 Agricultural Situation in India and Agricultural Prices, Directorate of Economics & Statistics, Ministry of Food & Agriculture, New Delhi.



INDIA

GROSS VALUE OF AGRICULTURAL OUTPUT PER CULTIVATOR, 1960-61





AGRICULTURAL HOLDING PER CAPITA IN RURAL AREAS, 1961

Purpose : This map shows the districtwise variations in per capita agricultural holding in rural areas of India in the year 1961.

Method : The districtwise figures for per capita agricultural holding in rural areas are grouped into six categories—three above, one nearer to and two below the National Average (0.98 acre) as shown in the index. According to these categories, all the districts are hatched from deep to light shades indicating larger to smaller size of agricultural holding.

Salient Features : India's per capita agricultural holding in rural areas in 1961 was only 0.98 acre. This map reveals that the size of agricultural holding bears positive correlation with the productivity of arable lands. Fertile riverine plains in the north and north-east, the deltas and coastal plains show the size of agricultural holding per person much smaller than that of the arid and semi-arid tracts, rocky plateaus, hills and mountains.

In all, thirty four districts exhibit a very large size of per capita agricultural holding in rural areas (above 2.00 acres). They are mainly distributed in the States of Rajasthan (11), Madhya Pradesh (7), Gujarat (6) and Maharashtra (6). In these areas, due to scanty rainfall and inadequate irrigational facilities intensive cultivation cannot be practised, so the supporting capacity of its agricultural lands is low. Millets are the predominant crop grown alongwith oilseeds and wheat in these areas. The district of Bikaner records the largest size of agricultural holding per head of rural population (5.78 acres) followed by Jaisalmer (5.62 acres), Churu (5.41 acres) and Barmer (5.12 acres) in Rajasthan State. The other worthmentioning districts are Surendranagar, Rajkot, Jamnagar and Kutch in Gujarat; Parbhani, Bhair, Aurangabad and Osmanabad in Maharashtra; Raichur, Gulbarga and Bijapur in Mysore and Vidisha, Sehore and Hoshangabad in Madhya Pradesh where the size of agricultural holding is also above 2.00 acres.

In all, 42 districts show their per capita agricultural holding between 1.61 to 2.00 acres. They are located mostly in contiguity with the districts showing a large size of agricultural holding. These areas embrace the western part of Malwa Plateau and the eastern part of Vindhyan range in Madhya Pradesh, the eastern and north-western parts of Maharashtra Plateau, parts of Karnataka and Telangana Plateaus in Mysore and Andhra Pradesh, the southern part of Kathiawar Peninsula and the south-western districts of Punjab. Except Punjab, these areas are dry basaltic and gneissic plateaus with annual rainfall less than 1,000 mms. Wheat, oilseeds, millets and cotton are the main crops grown by dry farming method in the absence of irrigational facilities. Madhya Pradesh has the largest number of such districts (16) followed by Maharashtra (7), Andhra Pradesh (4), Mysore (4) and Rajasthan (4).

The size of agricultural holding per capita in rural areas is moderately

large (1.21—1.60 acres) in forty six districts lying mostly in the transitional areas between wet and dry climate, such as, the Madhya Bharat Pathar, Chambal Valley, the north-eastern part of Madhya Pradesh, Mahanadi Basin, Dandakaranya Region and the eastern slopes of Western Ghats. These areas have a low density of population and comparatively low productivity of soils. They are mainly millets-growing areas, though rice and wheat accompany millets in some parts.

A considerable number of districts (71) depict a medium size of agricultural holding ranging between 0.81 and 1.20 acres which is nearer to the National Average (0.98 acre). Uttar Pradesh has the maximum number of such districts (18) followed by Punjab (8), Mysore (8), Andhra Pradesh (7), Orissa (5). In Uttar Pradesh, these districts embrace Rohilkhand Plain, in Punjab Upper Bari Doab Plain, in Mysore southern part of the plateau, in Andhra Pradesh northern Telangana Plateau and southern coast, in Orissa western part plateau and hills and in Rajasthan the Aravalli Hills. The other districts are scattered in distribution.

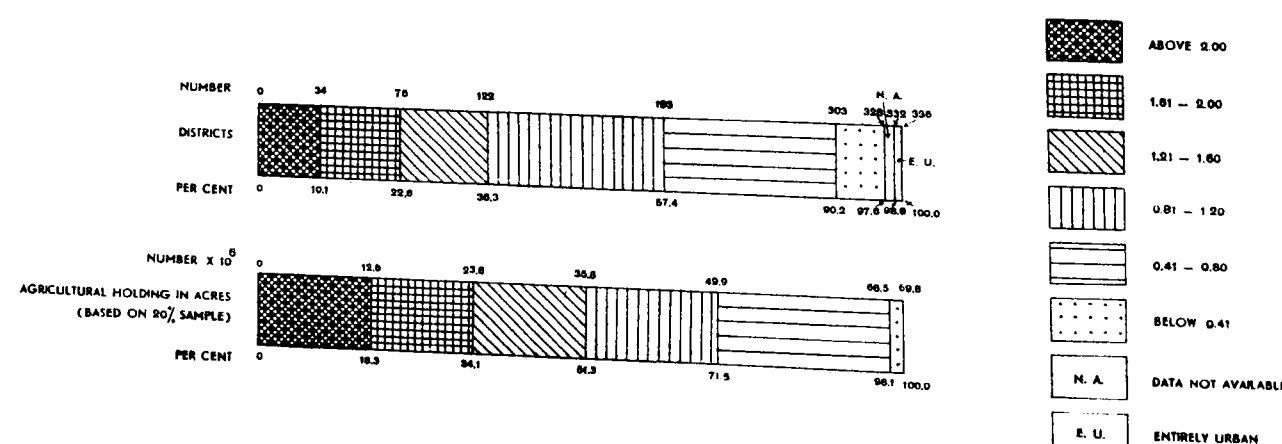
The size of agricultural holding per capita in rural areas declines appreciably (0.41 to 0.80 acre) in the fertile alluvial plains of the rivers, deltas and coasts. The districts in largest number (110) of this size of per capita agricultural holding form almost one continuous belt stretching from the Ganga-Brahmaputra Valley through Hooghly delta down to the Cauvery delta with a break in Andhra coast at Guntur and Nellore districts and reappearing in Konkan coast in the west. This low per capita agricultural holding indicates a high pressure of agrarian population in this fertile belt. Another belt having small size of holding can be identified with the hilly and mountainous tracts with the limited size of arable lands and dearth of employment opportunity in other economic activities. This belt comprises the State of Jammu & Kashmir, Union Territory of Himachal Pradesh, the hill districts of Punjab and Uttar Pradesh. Other areas with a low per capita agricultural holding are the Shillong Plateau and Mizo Hills district of Assam and the Union Territories of Manipur and Tripura.

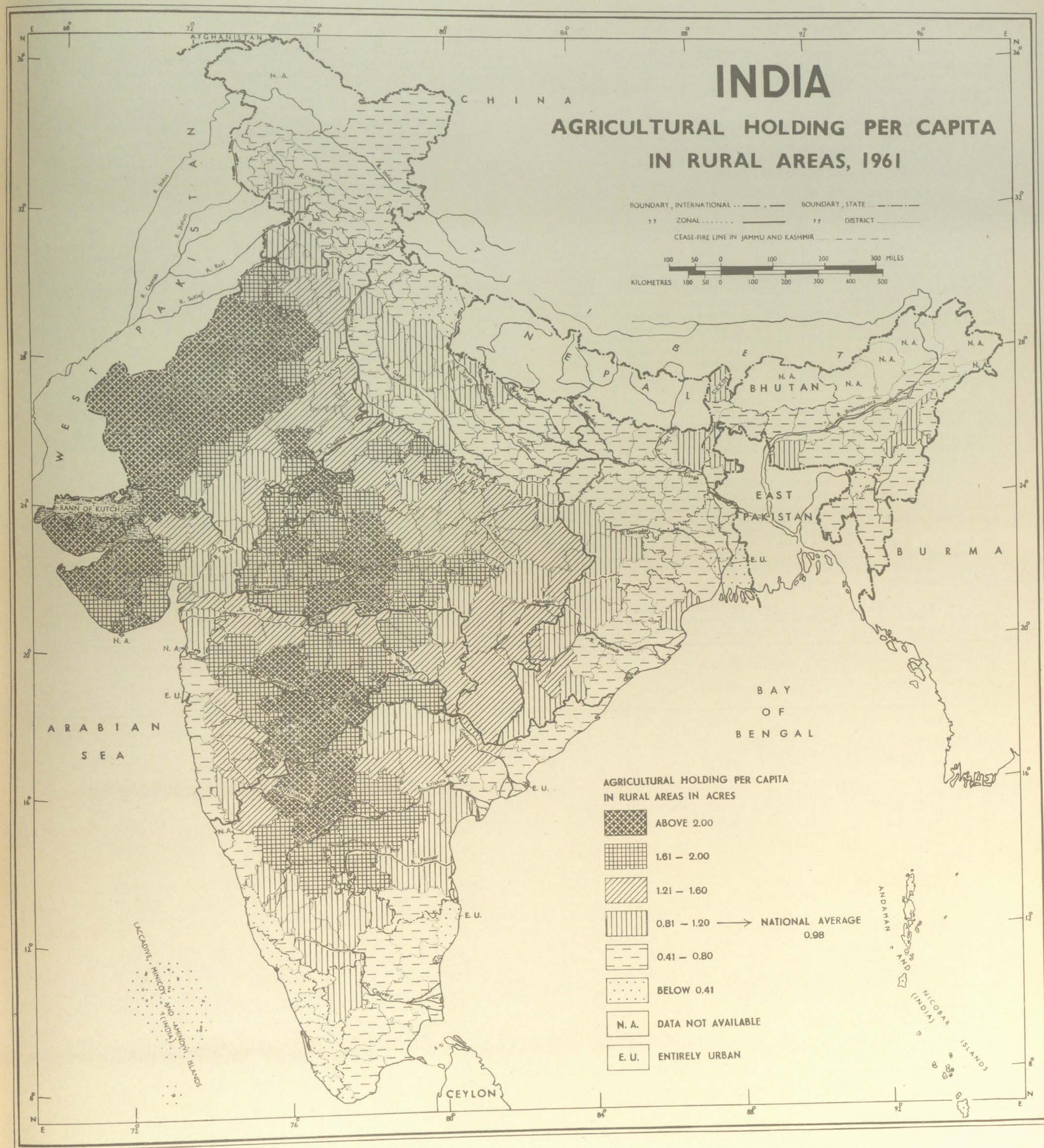
A very small per capita agricultural holding in rural areas (below 0.41 acre) is visible in twenty five districts which are in very densely populated State of Kerala, the lower Hooghly delta and the Chingleput district of Madras. The other areas with a very small size of agricultural holding are the districts of Pithoragarh and Almora in Uttar Pradesh, Cachar district in Assam, Dhanbad district in Bihar, Kanyakumari and Nilgiri districts in Madras, South Kanara district in Mysore and the Andaman & Nicobar Islands. The smallest size of agricultural holding per capita in rural areas is recorded by the Laccadive, Minicoy and Amindivi Islands (0.01 acre) followed by Mahe (0.03 acre) of Pondicherry.

(Based on 20% Sample)

Sl. No.	State/Union Territory	Estimated area under rural cultivation (in acres)	Rural population	Per capita agricultural holding in rural areas
1	2	3	4	5
INDIA		69,845,037	71,385,962	0.98
STATES				
1	Andhra Pradesh	5,754,791	5,879,790	0.98
2	Assam	1,425,083	2,235,065	0.64
3	Bihar	5,511,692	8,398,984	0.66
4	Gujarat	4,430,747	3,035,650	1.46
5	Jammu and Kashmir	377,066	589,288	0.64
6	Kerala	379,002	2,842,429	0.13
7	Madhya Pradesh	8,686,340	5,506,976	1.81
8	Madras	2,836,938	4,920,024	0.58
9	Maharashtra	8,769,591	5,643,732	1.55
10	Mysore	4,800,215	3,607,941	1.33
11	Orissa	2,515,076	3,272,457	0.77
12	Punjab	4,325,124	3,213,523	1.35
13	Rajasthan	7,219,957	3,349,404	2.16
14	Uttar Pradesh	9,799,636	12,752,519	0.77
15	West Bengal	2,509,401	5,216,447	0.48
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	5,354	49,123	0.11
2	Delhi	42,432	58,881	0.72
3	Himachal Pradesh	149,040	252,857	0.59
4	Laccadive, Minicoy and Amindivi Islands	57	4,763	0.01
5	Manipur	82,202	142,312	0.58
6	Tripura	85,598	206,068	0.42
7	Dadra and Nagar Haveli	37,517	55,788	0.67
8	Goa, Daman and Diu	11,771	Not available	
9	Pondicherry	57,495	55,116	0.21
10	North-East Frontier Agency	32,912	Not available	
11	Nagaland		67,131	0.86
12	Sikkim		29,694	1.11

Source : Census of India, 1961, Vol. I, India, Part III-(i) & (ii)—Household Economic Tables.





AGRICULTURAL HOLDING PER MALE CULTIVATOR, 1961

Purpose: This map shows the average size of agricultural holding per male cultivator in acres in each of the districts of India for the year 1961.

According to 1961 Census "a person working as cultivator if he or she is engaged either as employer, single worker or family worker in cultivation of land or supervision or direction of cultivation of land owned or held from Government, private persons or institutions for payment in money, kind or share" is defined as *cultivator*.

Method: The districtwise figures of agricultural holding per male cultivator are grouped into six categories—two above, one nearer to and three below the National Average which is 4.80 acres as given in the index of the map. According to these categories, all the districts are shaded to show the range from large to very small agricultural holdings.

Salient Features: The size of agricultural holding in India bears a negative correlation with the productivity of lands. The more a land contains productive soils and enjoys a climate congenial to farming activities, the greater is its pressure of agricultural population and correspondingly smaller is the size of agricultural holding.

A *very large size* of agricultural holding per male cultivator (above 10.00 acres) is visible in 40 districts distributed among the States of Rajasthan (8), Gujarat (7), Madhya Pradesh (8), Maharashtra (12) and Mysore (4). These districts with a very large size of agricultural holding lie in the arid tracts of western Rajasthan and in the semi-arid Central Plateau of Maharashtra, Malwa Plateau in Madhya Pradesh, northern part of Karnataka Plateau of Mysore and in the Kathiawar Peninsula of Gujarat where millets are grown predominantly alongwith oilseeds or cotton. The district of Bikaner exhibits the largest size of agricultural holding per male cultivator (21.30 acres) followed by Churu (17.74 acres), Jaisalmer (17.64 acres) and Barmer (16.69 acres) districts of Rajasthan. The other worthmentioning districts having a size of agricultural holding per male cultivator above 10.00 acres are Kutch, Jamnagar, Rajkot, Surendranagar and Amreli districts in Kathiawar Peninsula of Gujarat; Parbhani, Aurangabad, Bhir, Yeotmal, Nanded, Osmanabad and Sholapur districts in Maharashtra Plateau; Bijapur, Gulbarga, Raichur and Bidar districts in northern Karnataka Plateau and Hoshangabad, Raisen, Sehore and Vidisha districts in Malwa Plateau of Madhya Pradesh.

The districts in large number (75) fall under the second range of agricultural holding per male cultivator (6.01—10.00 acres). These are mostly contiguous with the districts having a very large size (above 10.00 acres) of agricultural holding. They lie in the semi-arid southern Punjab Plain, Gujarat Plain, the Western edge of Maharashtra Plateau, Western part of Karnataka and southern Telangana Plateaus, Malwa Plateau and Vindhyan scarplands and Bundelkhand area of Uttar Pradesh. Madhya Pradesh has the largest number of districts (22) under this category followed by Punjab (14), Rajasthan (8) and Maharashtra (8).

In all, fifty seven districts in the country exhibit agricultural holding per male cultivator of medium size (4.01—6.00 acres) nearer to the National Average. They are mainly distributed in Madhya Pradesh (12), Uttar

Pradesh (9), Andhra Pradesh (8) and Rajasthan (7). These areas, where agricultural holdings are of medium size, are more frequent in the Upper Ganga-Yamuna *doab* area, the Madhya Bharat Pathar area, Mahanadi Basin, Dandakaranya Region, western Orissa Hills and the littoral part of Andhra Pradesh. As these areas receive a slightly higher rainfall than the former regions, the supporting capacity of agricultural lands is relatively high. So these areas have relatively a large size of agricultural population and obviously a smaller size of agricultural holding per male cultivator.

As the supporting capacity of land increases, the pressure of population on agricultural lands also increases and the size of agricultural holding decreases. A considerable number of districts (70) show a moderately small size of agricultural holding per male cultivator ranging between 3.01 and 4.00 acres. The largest number of districts in this range occur in Uttar Pradesh (18) followed by West Bengal (7), Madras (7), Assam (7) and Bihar (6) States. It is worth-mentioning that these districts lie mainly in the fertile alluvial plains, such as, Rohilkhand Plains and Lower Ganga-Yamuna *doab* in Uttar Pradesh, the Southern Bihar Plain, the northern West Bengal plains, the Brahmaputra Valley and the Tamilnad Plain. Other areas which have a similar size of agricultural holding per male cultivator can be identified with the hilly and mountainous tracts, such as, Manipur, Shillong Plateau, the foot-hills of Western and Eastern Himalayas, the Central Orissa Hills and Plateaus, southern Karnataka Plateau and the Aravalli Hills.

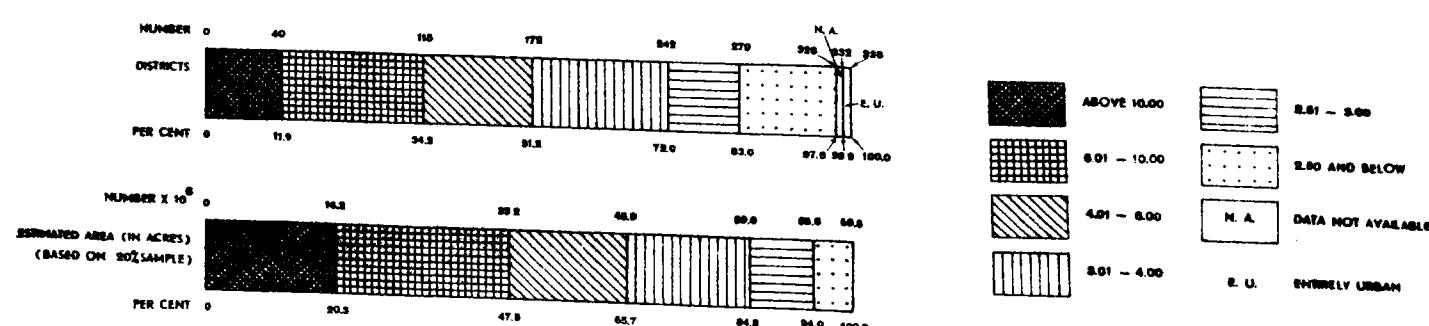
The size of agricultural holding per male cultivator further decreases in the densely populated riverine plains and deltas where rice is grown in association with jute, sugarcane and tea. Thirty seven districts in the country depict a *small size* of agricultural holding varying between 2.51 and 3.00 acres. Uttar Pradesh has the maximum number of districts (13) in this range mostly located in Avadh Plain. Bhagirathi *delta* in West Bengal, Mahanadi *delta* in Orissa and five districts of Bihar scattered in Bihar Plain and Chotanagpur Plateau show a small size of agricultural holding. The district of Mizo Hills and United Mikir and North Cachar Hills in Assam, Darjeeling district in West Bengal and Lahaul and Spiti district in Punjab also fall under this range of small size of agricultural holding per male cultivator.

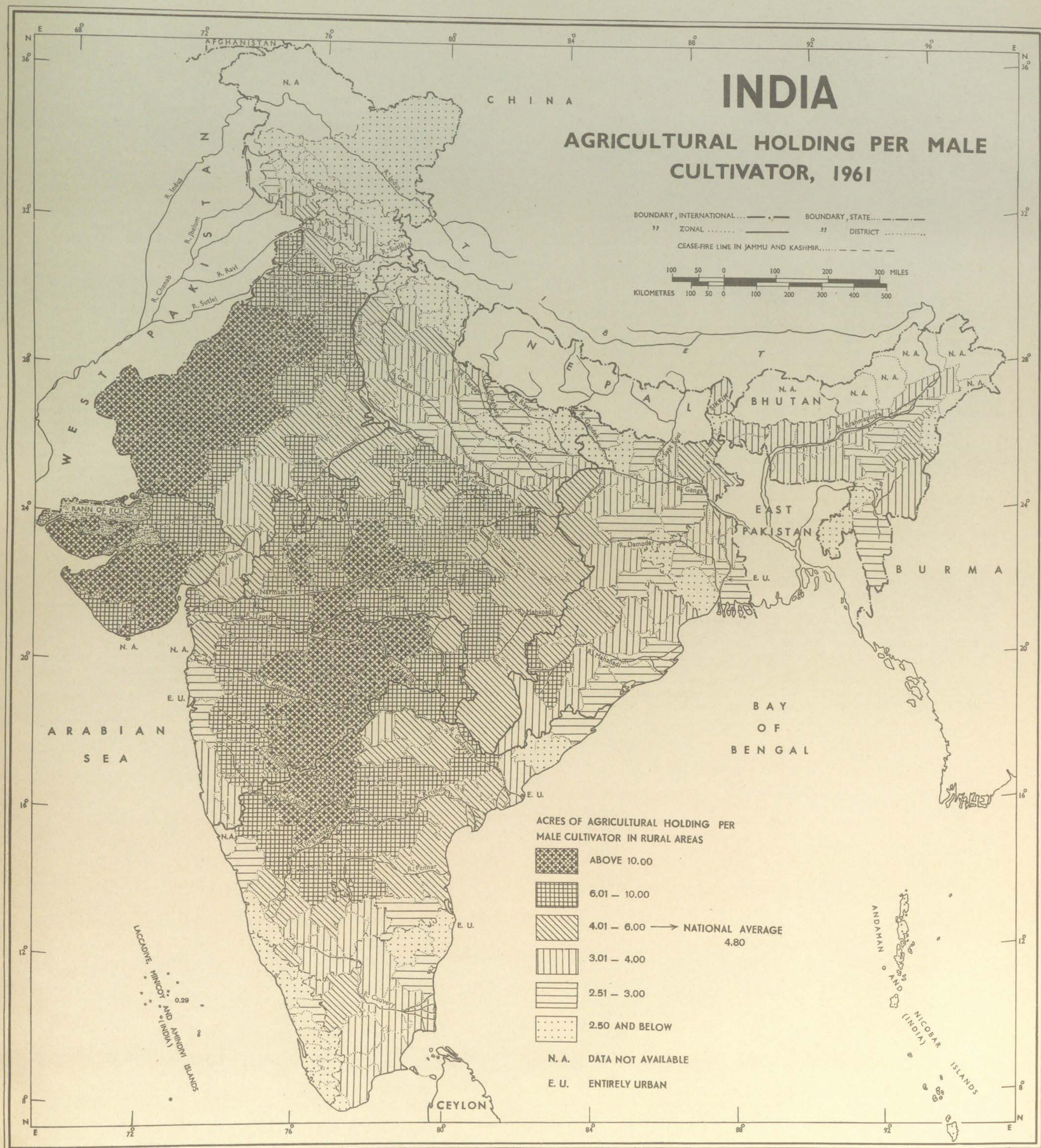
The size of agricultural holding per male cultivator is *very small* (2.50 acres and below) in forty nine districts of the country. Uttar Pradesh shares the maximum number of such districts (10) followed by the State of Kerala (8), the Union Territory of Himachal Pradesh (6) the State of Jammu & Kashmir (5) and West Bengal (4). The mountainous tracts with limited lands available for cultivation exhibit a very small size of agricultural holding per male cultivator. These areas embrace Jammu and Kashmir, the Union Territory of Himachal Pradesh, the hill districts of Uttar Pradesh and Tripura. The densely populated Kerala State and the lower Bhagirathi *delta* in West Bengal show a significantly small size of agricultural holding. The other areas with a similar small size of agricultural holding can be seen in Trans Ghaghara-Gandak basin in Uttar Pradesh and Bihar and three districts (Chingleput, North Arcot and Kanyakumari) of Madras. The smallest size of agricultural holding per male cultivator is visible in Laccadive, Minicoy and Amindivi Islands (0.29 acre) followed by Andaman & Nicobar (0.80 acre) and the hill district of Pithoragarh (1.13 acres) in Uttar Pradesh.

Sl. No.	State/Union Territory	Estimated area under cultivation in rural areas (in acres)†	Rural male cultivators** (rural male family workers)	Percentage of agricultural holding per male cultivator (in acres)
1	2	3	4	5
INDIA*				
		69,845,037	14,553,917	4.80
STATES				
1	Andhra Pradesh	5,754,791	1,131,479	5.09
2	Assam	1,425,083	464,381	3.07
3	Bihar	5,511,092	1,763,117	3.13
4	Gujarat	4,430,747	576,563	7.68
5	Jammu and Kashmir	377,086	163,052	2.31
6	Kerala	379,002	236,740	1.60
7	Madhya Pradesh	8,686,340	1,290,453	6.73
8	Madras	2,836,938	893,225	3.18
9	Maharashtra	8,769,591	1,042,442	8.41
10	Mysore	4,800,215	782,560	6.13
11	Orissa	2,515,076	703,717	3.57
12	Punjab	4,325,124	590,395	7.33
13	Rajasthan	7,219,957	869,476	8.30
14	Uttar Pradesh	9,799,636	2,984,208	3.28
15	West Bengal	2,509,401	861,996	2.91
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	5,354	6,656	0.80
2	Delhi	42,432	6,412	6.62
3	Himachal Pradesh	149,040	71,915	2.07
4	Laccadive, Minicoy and Amindivi Islands	57	198	0.29
5	Manipur	82,202	27,151	3.03
6	Tripura	85,598	42,314	2.02
7	Dadra and Nagar Haveli	37,517	14,476	2.59
8	Goa, Daman and Diu	N.A.	N.A.	N.A.
9	Pondicherry	11,771	4,352	2.70
10	North-East Frontier Agency	N.A.	N.A.	N.A.
11	Nagaland	57,495	17,093	3.36
12	SIKKIM	32,912	9,546	3.45

*It excludes figures for Goa, Daman and Diu and N.E.F.A. for which data are not available.
 **Rural male cultivators include (i) cultivators for sample households engaged in cultivation only and (ii) cultivators for sample households engaged both in cultivation and household industry
 †Based on 20% Sample Households.
 N.A.—Not available.

Source : Census of India, 1961, Vol. I, Part (iii)—Household Economic Tables.





**PER CAPITA SUPPLY AND REQUIREMENT OF STAPLE
FOOD-CROPS (CEREALS AND PULSES), 1961**

Purpose : This map shows the relative position of all the districts in India with regard to the ratio of per capita supply and nutritive requirements in terms of calories of food grains, such as, rice, wheat, millets and pulses. This map thus bring out the regions of deficit or surplus supplies in staple food-crops according to the nutritional requirements. Thus the map is an indication of the carrying capacity of food in this country.

Method : For this map, the requirements of cereals and pulses in ozs. per day for male and female, adults and children of various age groups as recommended by the Nutritive Advisory Committee *vide* Health Bulletin No. 23 (1951) by W. R. Aykroyd (page 16) are taken into account. They are as follows :—

Age group	Requirements per day
Male 18+	17 ozs. (1,684 calories)
Female 18+	15.3 ozs. (1,515.6 calories)
Adolescents 13—17	13.6 ozs. (1,347.2 calories)
Children 8—12	10.2 ozs. (1,010.4 calories)
3—7	6.8 ozs. (673.6 calories)
0—2	1.7 ozs. (168.4 calories)

For each district, the requirements of cereals and pulses are estimated according to the sex and age structure of population as recommended above. The per capita production of rice, wheat and pulses (the average of 5 years—1956-57 to 1960-61) for each district is calculated in terms of calories. The ratio between per capita production and per capita nutritive requirements is then estimated for all the districts and these ratios are grouped into seven ranges—three on the surplus side and four on the deficit side. The districts showing deficit supplies are hatched in black of different intensity, ranging from very high to low, while the districts in surplus supplies, are shaded in black as show in the legend.

Salient Features : During 1961, India had a per capita deficit supply of staple food-crops (cereals and pulses) to the extent of 16.99% (ratio 83.01%) of the requirements. The deficit is marked more in the densely populated rice-growing tracts than in the millets and wheat-growing areas.

(a) Areas Showing Surplus Supplies :

The millets and wheat-growing areas embracing the States of Punjab, Madhya Pradesh, Rajasthan, Maharashtra and the Union Territory of Himachal Pradesh exhibit per capita production in surplus of their requirements. The district of Hissar in Punjab shows the highest per capita surplus production of staple food-crops—196.59% (ratio 296.59%) followed by the district of Ganganagar—180.50% (ratio 280.50%) in Rajasthan. The other districts which show a very high surplus—more than 100% are in parts of Malwa Plateau (Datia, Raisen, Vidisha and Dewas districts of Madhya Pradesh); of Bundelkhand Plateau (Hamirpur and Jalaun districts of Uttar Pradesh) and of Punjab Plains (Ferozepur, Sangrur and Bhatinda districts). All these districts are in surplus of wheat and pulses mainly because they show comparatively lesser concentration of population (density < 200 persons per sq. km.)

The areas which show a medium surplus supply in food-crops to the extent of 50—100% (ratio 150.01% to 200%) of the requirements embrace the eastern part of Punjab Plains (Patiala, Karnal and Rohtak districts); the

Madhya Bharat Pathar and Malwa Plateau (Morena, Bhind, Shivpuri, Guna, Rajgarh, Shajapur, Ujjain and Sehore districts of Madhya Pradesh) and the parts of Bundelkhand Plateau (Jhansi and Banda districts of Uttar Pradesh). Similarly the districts of Tonk, Kota, Bundi, Jhalawar and Barmer in Rajasthan and Bhir district in Maharashtra also show a medium surplus.

The Bundelkhand Plateau, Satpura and Vindhyan hills, Baghelkhand Plateau, Dandakaranya Region, Mahanadi Basin, Maharashtra Plateau and some districts in the adjoining States of Mysore and Andhra Pradesh (Bijapur, Gulbarga and Mahbubnagar) and the hill districts of Punjab, Uttar Pradesh and Himachal Pradesh show a low surplus supply—only 0.01% to 50% (ratio 100.01% to 150.00%) of their requirements. These areas lie in the transitional zone of wheat, millets and rice. The other areas with a similar surplus conditions are in the Krishna and Godavari deltas of Andhra Pradesh and Cauvery Delta in Madras; the districts of Coorg and Shimoga in Mysore; Alwar, Bharatpur, Sawai Madhopur and Jalor districts in Rajasthan and Birbhum and Bankura districts in West Bengal. It is worthnoticing that most of these areas are irrigated rice-growing tracts and are well-known for their high yields.

(b) Areas Showing Deficit Supply :

As wheat yields to rice or commercial crop, the ratio of supply of requirements tends to be on the deficit side. The areas suffering from extremely high deficit supply—above 75% (ratio 25.0% and below) usually show an overwhelming importance of rice or commercial crop in their land-use pattern. The district of Purulia in West Bengal where rice accounts for 91.9% of the total acreage exhibits the highest deficit supply 99.21% (ratio 0.79%). The rice-growing districts of Howrah (rice acreage 93%) in West Bengal, United Khasi and Jaintia Hills (rice acreage 83.3%) in Assam, the districts with predominance of commercial crops, such as, Nilgiri in Madras where nearly 80% of the total acreage of the land is devoted to tea and coffee shows a deficit to the extent of—93.09% (ratio 6.91%). The districts of Kottayam (coconut acreage 32.7%), Kozhikode (coconut acreage 37.8%) and Trivandrum (coconut acreage 55%) in Kerala also show a very high deficit—above 75% (ratio below 25%).

The areas where cereals and cash crops share almost the same proportion of lands, show high and very high deficit supply ranging from 25 to 75% (ratio 75% to 25%). These are the wheat-sugarcane-growing areas in western Uttar Pradesh; the rice-sugarcane-growing areas in eastern Uttar Pradesh and north Bihar Plain; the rice-jute-growing areas in Bhagirathi Delta and Brahmaputra Valley; the rice-oilseeds-growing areas in southern Bihar and Eastern part of Orissa; the rice-millets-groundnut-cotton-growing areas in Gujarat, Western Ghats, Tamilnad Uplands and Mysore Plateau and the rice-coconut-spices-growing areas in Kerala State. Other districts having very high deficit supplies are Bangalore in Mysore, Visakhapatnam and Hyderabad in Andhra Pradesh, United Mikir and North Cachar Hills in Assam, Lucknow in Uttar Pradesh, Simla in Punjab and Srinagar in Jammu and Kashmir where agricultural output is very low, but the requirements are relatively high due to the high level of urbanization and industrialization.

The low deficit supply—below 25% (ratio above 75%) is usually visible in the transitional belt between millets and rice-growing areas, such as, Central Uttar Pradesh (wheat, gram and rice), the littoral districts of Madras (rice, millets and groundnut), the western Orissa Hills (rice, oilseeds and millets) and eastern Rajasthan Uplands (millets, wheat and gram).

Source : Bulletin on Food Statistics, Directorate of Economics and Statistics, Ministry of Food & Agriculture, New Delhi.

INDIA

PER CAPITA REQUIREMENT AND SUPPLY OF STAPLE FOOD - CROPS (CEREALS AND PULSES), 1961

BOUNDARY, INTERNATIONAL BOUNDARY, STATE
 ZONAL DISTRICT
 CEASE-FIRE LINE IN JAMMU AND KASHMIR

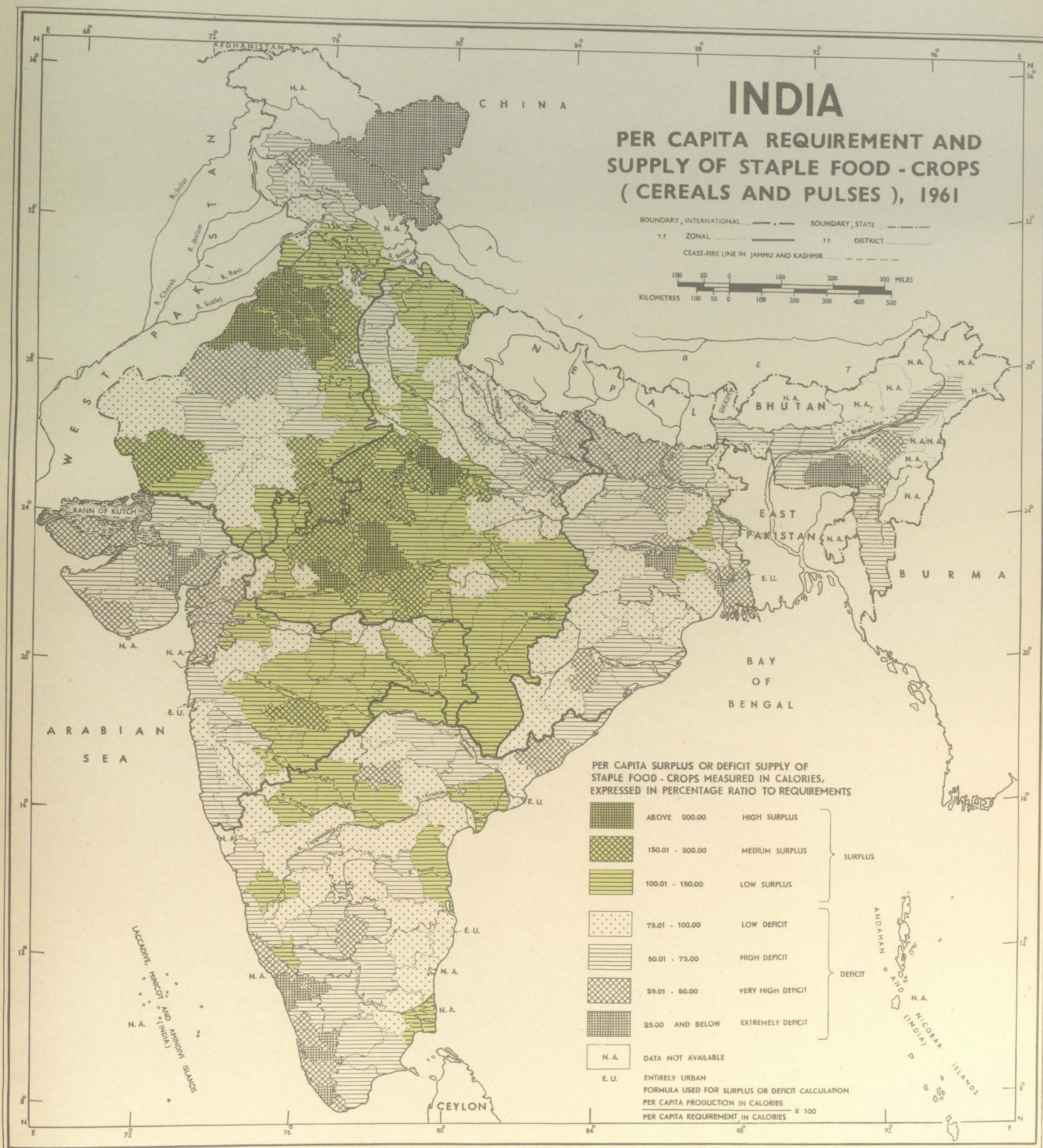
100 50 0 100 200 300 MILES
 KILOMETRES 100 50 0 100 200 300 400 500

PER CAPITA SURPLUS OR DEFICIT SUPPLY OF
STAPLE FOOD - CROPS MEASURED IN CALORIES,
EXPRESSED IN PERCENTAGE RATIO TO REQUIREMENTS

	ABOVE 200.00	HIGH SURPLUS	SURPLUS
	150.01 - 200.00	MEDIUM SURPLUS	
	100.01 - 150.00	LOW SURPLUS	
	75.01 - 100.00	LOW DEFICIT	DEFICIT
	50.01 - 75.00	HIGH DEFICIT	
	25.01 - 50.00	VERY HIGH DEFICIT	
	25.00 AND BELOW	EXTREMELY DEFICIT	

N. A. DATA NOT AVAILABLE

E. U. ENTIRELY URBAN
 FORMULA USED FOR SURPLUS OR DEFICIT CALCULATION
 $\frac{\text{PER CAPITA PRODUCTION IN CALORIES}}{\text{PER CAPITA REQUIREMENT IN CALORIES}} \times 100$



The 1961 Census Industrial Categories

**PROPORTION OF TOTAL WORKERS AND NON-WORKERS
TO THE TOTAL POPULATION, 1961**

Purpose : This map shows the percentage of workers and non-workers for all the States and Union Territories as in 1961.

Method : Circles have been drawn for each State and Union Territory proportionate to the total population for 1961 as shown in the legend. Each circle has been divided into two sectors—workers shown by shading and non-workers without any shading. Each sector is further sub-divided into males and females. The Statewise percentage figures of workers to total population have been grouped into five categories—two above, one nearer to and two below the National Average (42.99%) and are shaded by five different grades of hatching from high to low.

Salient Features : In 1961, about 43 per cent of India's total population (439 millions) were workers and 57 per cent were non-workers. The percentage of male workers to the total male population was 57.12 per cent while the female workers constituted 27.96 per cent. A glance at the map reveals the following salient features: (i) the under-developed hill areas lying in the northern and north-eastern part of the country, such as, Himachal Pradesh, SIKKIM, North-East Frontier Agency and Nagaland show a very high participation rate and a high proportion of female workers except in N.E.F.A. area; (ii) the densely populated Northern plain shows the proportion of workers lower than that of the peninsular plateau in the south; (iii) the proportion of female workers is very low (4 to 14 per cent) in the entire Northern plain and (iv) the N.E.F.A. area is conspicuous by its negligible percentage of female working-force.

The sparsely populated mountainous areas in the north and north-east, such as, Himachal Pradesh (59.61 per cent), N.E.F.A. (67.60 per cent) and Nagaland (59.40 per cent) recorded the highest percentage of workers to the total population. Such a high participation rate in these hill areas is, perhaps, due

to the labour intensive agricultural practices followed in the wake of their rugged terrains. Himachal Pradesh (26.79 per cent) and Nagaland (28.10 per cent) compared to other areas (except Dadra and Nagar Haveli 28.43%) record a higher proportion of female workers to total population. Such a high female participation rate is probably due to migration of male working population in search of gainful employment in the plains leaving behind their womenfolk to look after their agricultural lands. But the proportion of female working force is, however, significantly low (3.61 per cent) in highly male-biased N.E.F.A.

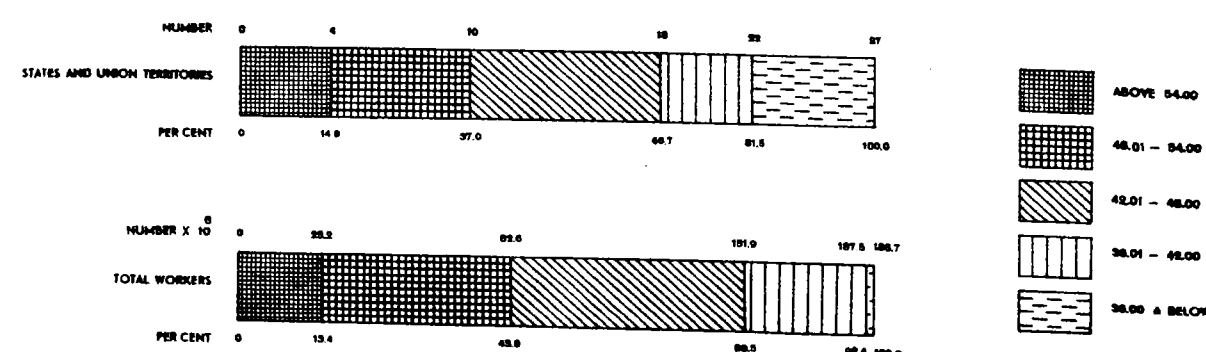
All the States lying in the central and southern parts except the State of Kerala, show the percentage of working population to the total population above the National Average (42.99 per cent). The State of Madhya Pradesh (52.29 per cent) in the centre and Andhra Pradesh (51.87 per cent) in the east-coast exhibit a high participation rate and also a high share of female workers to the total working population. In both the States, a significant portion of the population is tribal who have no social prejudice against outdoor work.

The other densely populated States, such as, West Bengal (33.16 per cent), Punjab (34.97 per cent) and Kerala (33.31 per cent) record the proportion of workers in the lowest category, i.e., 36.00 per cent and below. The participation rate though not the lowest in the country but is significantly low in Uttar Pradesh (39.12 per cent). The female participation rate is the lowest in Delhi (2.87 per cent) followed by West Bengal (4.41 per cent), Punjab (6.58 per cent) and Kerala (9.96 per cent). In Delhi and all these States other than Kerala the social prejudice against women working outdoor is, perhaps, the reason for this low women participation rate. In Kerala, in spite of social freedom enjoyed by the women, the percentage of female workers to the total workers has been low due to very high pressure of employable women labour-force in the wake of high literacy rate and high sex-ratio.

Sl. No.	State/Union Territory	Total population	Percentage of workers to the total population			Percentage of non-workers to the total population		
			Persons	Males	Females	Persons	Males	Females
1	2	3	4	5	6	7	8	9
	INDIA*	438,936,918	42.99	29.43	13.56	57.01	22.09	34.92
	STATES							
1	Andhra Pradesh	35,983,447	51.87	31.40	20.47	48.13	19.07	29.06
2	Assam	11,872,772	43.27	28.83	14.44	56.73	24.47	32.26
3	Bihar	46,455,610	41.41	27.89	13.52	58.59	22.27	36.32
4	Gujarat	20,633,350	41.08	27.56	13.52	58.92	23.98	34.94
5	Jammu and Kashmir	3,560,976	42.78	30.80	11.98	57.22	22.46	34.76
6	Kerala	16,903,715	33.31	23.35	9.96	66.69	26.12	40.57
7	Madhya Pradesh	32,372,408	52.29	30.83	21.46	47.71	20.38	27.33
8	Madras	33,686,953	45.57	29.99	15.58	54.43	20.21	34.22
9	Maharashtra	39,553,718	47.90	29.48	18.42	52.10	22.16	29.94
10	Mysore	23,586,772	45.47	29.80	15.67	54.53	21.25	33.28
11	Orissa	17,548,846	43.66	30.36	13.30	56.34	19.61	36.73
12	Punjab	20,306,812	34.97	28.39	6.58	65.03	25.25	39.78
13	Rajasthan	20,155,602	47.55	30.47	17.08	52.45	21.94	30.51
14	Uttar Pradesh	73,746,401	39.12	30.48	8.64	60.88	21.90	38.98
15	West Bengal	34,926,279	33.16	28.75	4.41	66.84	24.50	42.34
	UNION TERRITORIES AND OTHER AREAS							
1	Andaman and Nicobar Islands	63,548	49.08	41.93	7.15	50.92	19.92	31.00
2	Delhi	2,658,612	32.14	29.27	2.87	67.86	26.75	41.11
3	Himachal Pradesh	1,351,144	69.61	32.82	26.79	30.39	19.19	21.20
4	Laccadive, Minicoy and Amindivi Islands	24,108	51.64	25.54	26.10	48.36	23.96	24.40
5	Manipur	780,037	45.89	23.48	22.41	54.11	26.14	27.97
6	Tripura	1,142,005	38.20	28.20	10.09	61.71	23.57	38.14
7	Dadra and Nagar Haveli**	57,963	60.03	31.60	28.43	39.97	19.33	20.64
8	Goa, Daman and Diu**	626,667	41.19	24.75	16.44	58.81	23.53	35.28
9	Pondicherry	369,079	37.49	27.39	10.10	62.51	22.29	40.22
10	North-East Frontier Agency*	38,705	67.60	63.99	3.61	32.40	15.02	17.38
11	Nagaland	369,200	59.40	31.30	28.10	40.60	20.44	20.16
12	SIKKIM	162,189	64.09	35.11	28.98	35.91	17.42	18.49

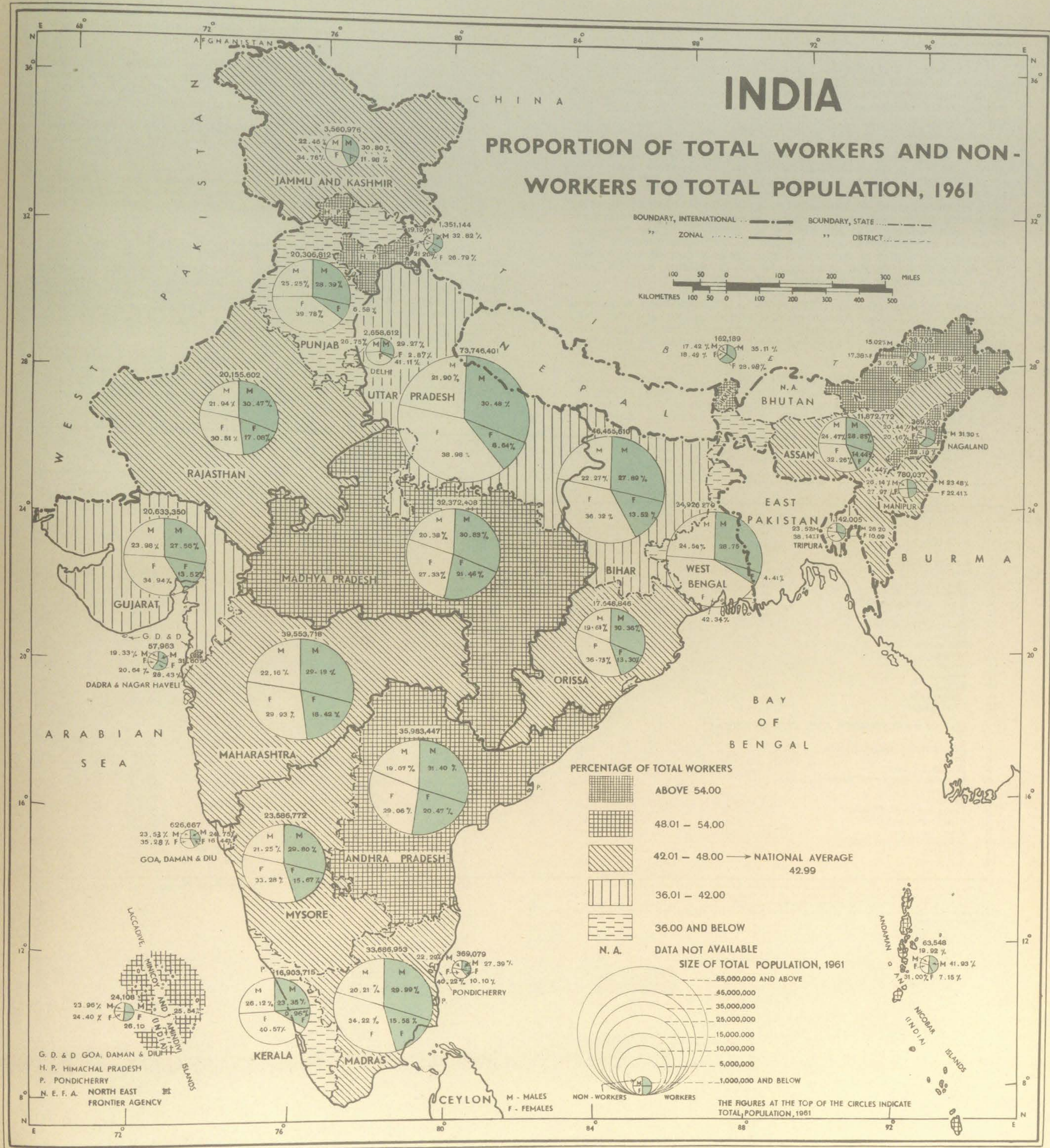
*Excludes population and its distribution into workers and non-workers of that portion of North-East Frontier Agency where All-India Census Schedule was not canvassed.
**Figures of Goa, Daman and Diu and Dadra and Nagar Haveli relate to the year 1960 and 1962 respectively.

Source : Census of India, 1961, Vol. I, India, Part II-A (ii)—Union Primary Census Abstracts.



INDIA

PROPORTION OF TOTAL WORKERS AND NON-WORKERS TO TOTAL POPULATION, 1961



**PERCENTAGE OF RURAL WORKERS AND NON-WORKERS
TO TOTAL RURAL POPULATION, 1961**

Purpose : This map depicts the statewide distribution of rural workers and non-workers to total rural population.

Method : The percentage figures of rural workers to total rural population are depicted by choropleth method. Proportionate circles are inserted in each State to represent the total rural population for the respective States and sectors are divided in each circle to show the proportion of rural workers and non-workers.

Salient Features : Out of 27 States and Union Territories in India including Sikkim, only five depict a very high percentage (60.00% and above) of workers among the employable rural population. These are the Union Territories of Himachal Pradesh, Nagaland, North-East Frontier Agency, Dadra and Nagar Haveli and Sikkim. They have encountered very little urbanization or industrialization and therefore most of the population depends on either agricultural or pastoral activities. More than half of the rural population in these Union Territories is in the working age group 15—59 and more than 60 per cent of them are workers. In spite of lesser opportunities for non-agricultural occupation in these hilly States, the proportion of rural workers is high, due to the fact that either agricultural or pastoral activities, need more labourers, because of the rugged terrain.

A fairly high percentage (52.00—59.99%) of rural workers is found in the heart of India (Andhra Pradesh, Madhya Pradesh and Maharashtra). The cultivation of cotton in the western parts and rice in Andhra Pradesh etc., requires the employment of additional workers at the time of sowing and harvesting.

The next range (44.00—51.99%) belong to the States of Jammu and Kashmir, Rajasthan and Gujarat in the north-west India; Mysore and Madras in southern India; Orissa and the Union Territory of Manipur in north-eastern India and Andaman and Nicobar Islands and Laccadive, Minicoy and

Amindivi Islands. These are the areas which fall nearer to the range of the National Average (45.07%). This moderately high percentage of rural workers in these areas may be accounted as follows :—

(i) The arid and semi-arid conditions of Rajasthan and Gujarat and rugged topography and extremely cold climate of Jammu and Kashmir (Jammu and Kashmir also belongs to cold desert type of climate) has necessitated the employment of labourers in number for agricultural operations.

(ii) Rural economy dominates in the Islands resulting in more percentage of rural workers in Andaman and Nicobar Islands and Laccadive, Minicoy and Amindivi Islands.

(iii) The rice cultivation in Manipur and Orissa together with the rugged terrains have led to the employment of more labourers in agricultural practices resulting in a moderately high percentage of rural workers in these two cases.

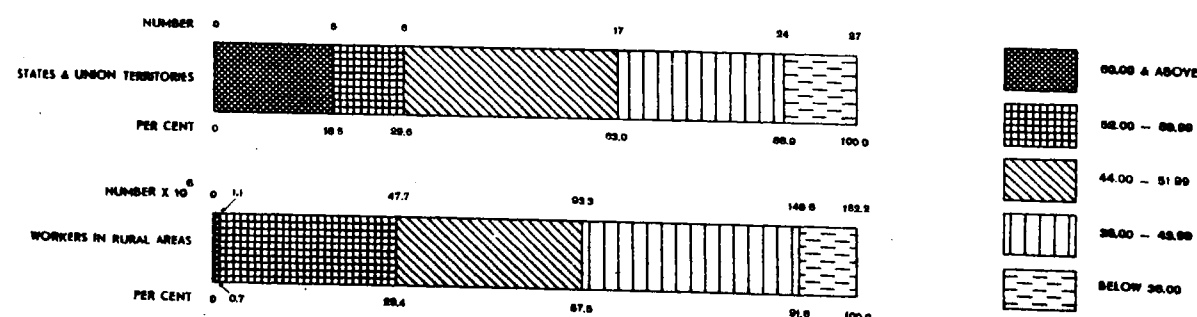
All other States and Union Territories except West Bengal and Kerala show a lower percentage in rural workers where it varies between 36.00 and 43.99%. They lie exclusively in northern India forming two distinct belts, viz., (i) Punjab, Uttar Pradesh and Bihar; (ii) Assam and (iii) Tripura. The high density of population, limitation of cultivated lands and high influx of refugees from Pakistan have increased the number of rural population in these areas. Hence the percentage of non-workers to the total rural population in these areas is naturally high.

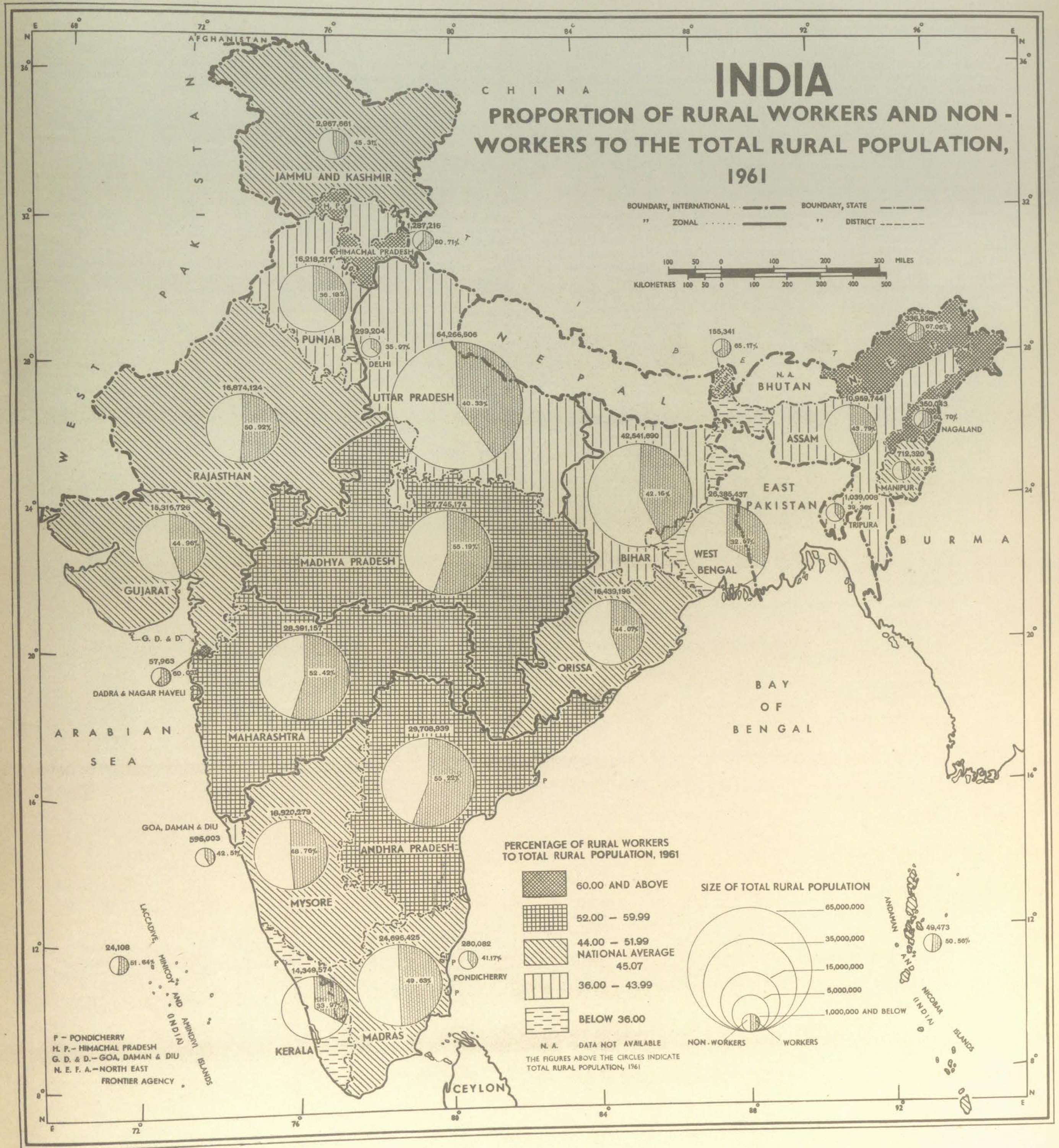
Percentage of rural workers to total population is the lowest (below 36.00%) in the most densely populated State of the country, viz., Kerala and the highly industrialized and urbanised State of the country namely West Bengal. The reason in both the cases is mostly due to the high pressure of population on land in rural areas.

Sl. No.	State/Union Territory	Proportion of rural workers to total rural population	Proportion of rural non-workers to total rural population
1	2	3	4
	INDIA†	45.07	54.93
	STATES		
1	Andhra Pradesh	55.22	44.78
2	Assam	43.79	56.21
3	Bihar	42.16	57.84
4	Gujarat	44.96	55.04
5	Jammu and Kashmir	45.31	54.69
6	Kerala	33.97	66.03
7	Madhya Pradesh	55.19	44.81
8	Madras	49.63	50.37
9	Maharashtra	52.42	47.58
10	Mysore	48.76	51.24
11	Orissa	44.07	55.93
12	Punjab	36.18	63.82
13	Rajasthan	50.92	49.08
14	Uttar Pradesh	40.33	59.67
15	West Bengal	32.67	67.33
	UNION TERRITORIES AND OTHER AREAS		
1	Andaman and Nicobar Islands	50.56	49.44
2	Delhi	35.97	64.03
3	Himachal Pradesh	60.71	39.29
4	Laccadive, Minicoy and Amindivi Islands	51.64	48.36
5	Manipur	46.38	53.62
6	Tripura	39.36	60.64
7	Dadra and Nagar Haveli*	60.03	39.97
8	Goa, Daman and Diu*	42.51	57.49
9	Pondicherry	40.04	59.96
10	North-East Frontier Agency††	67.60	32.40
11	Nagaland	60.70	39.30
12	SIKKIM	65.17	34.83

*Figures of Dadra and Nagar Haveli and Goa, Daman and Diu relate to the year 1962 and 1960 respectively.
†National Average has been calculated after excluding the figures relating to that portion of North-East Frontier Agency, where simplified Census schedule was canvassed.
††The proportion figures relate to that portion of North-East Frontier Agency, where simplified Census schedule was canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.





**PROPORTION OF URBAN WORKERS AND NON-WORKERS TO
THE TOTAL URBAN POPULATION, 1961**

Purpose : This map depicts the proportion of urban workers and non-workers to the total urban population in States and Union Territories in 1961.

Method : Percentage figures of urban workers to total urban population of all the States and Union Territories are grouped into five categories—two above; one nearer to and two below the National Average (33.48 per cent). They are shown by choropleth method. Circles proportionate to total urban population are inserted for every State and Union Territory and are divided into sectors showing workers and non-workers with further break-up of males and females.

Salient Features : This map reveals that the proportion of urban workers to total urban population is very high (>39.00 per cent) in the Union Territories of Andaman and Nicobar Islands and Manipur. The percentage of urban workers to total urban population in the Union Territory of Himachal Pradesh is also high (36.01—39.00 per cent). The high proportion of urban workers in these Union Territories may, perhaps, be attributed to their small size of urban population. In the States of Assam, Orissa and Maharashtra, (36.01—39.00 per cent) the proportion of urban workers to the total workers is also high in the wake of recent progress in industrialization. The setting up of new township of Rourkela in Orissa, large scale industrial developments in Maharashtra and the opening of new oil refinery and petro-chemical industries in the valley areas of Assam have helped these three States to employ more

urban population and obviously a higher proportion of urban workers to total urban population.

In six States and two Union Territories, the percentage share of urban workers to total urban population is nearer to the National Average (33.48 per cent). They are Bihar, Madhya Pradesh, Andhra Pradesh, Madras, Mysore, West Bengal, Goa, Daman and Diu and Nagaland.

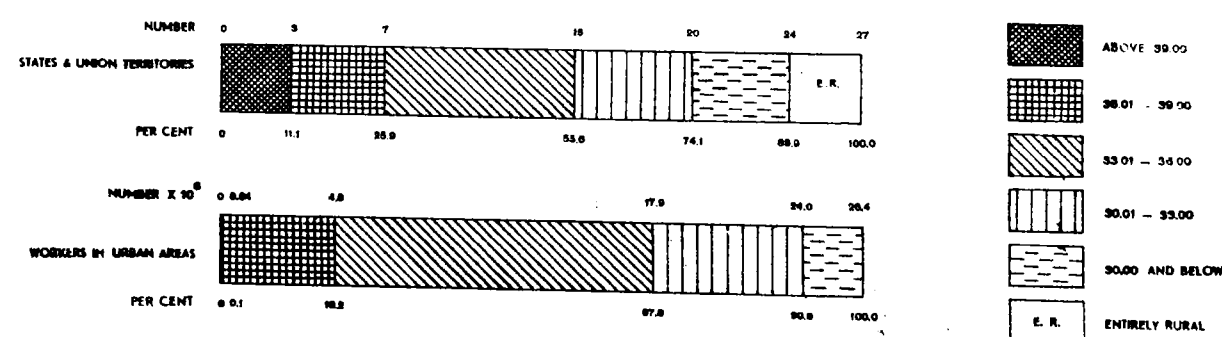
The proportion of urban workers to total urban population is relatively low (30.01—33.00 per cent) in north-western India, viz., Jammu and Kashmir, Uttar Pradesh, Rajasthan, Punjab and Delhi. Due to less industrialisation in Uttar Pradesh, the employment opportunities in urban centres compared to the size of the urban population are limited. In Rajasthan likewise urban centres provide lesser opportunities to their urban population because of lesser progress in industrialization. The Union Territory of Delhi and Punjab State also showed a low proportion of urban workers, perhaps, due to heavy immigration of labour-force from their neighbouring States. Employment opportunities, perhaps, did not keep pace with the accretion of population in the wake of migration.

In the States of Gujarat and Kerala and the Union Territories of Tripura and Pondicherry the percentages of urban workers to total urban population were under the lowest range (30.00 & below).

Sl. No.	State/Union Territory	Proportion of urban workers to total urban population		Proportion of urban non-workers to total urban population	
		Males	Females	Males	Females
1	2	3	4	5	6
	INDIA	28.40	5.08	25.80	40.72
	STATES				
1	Andhra Pradesh	26.86	9.14	24.40	39.60
2	Assam	33.01	3.99	26.62	36.38
3	Bihar	28.57	4.66	26.65	40.12
4	Gujarat	25.51	4.37	27.23	42.89
5	Jammu and Kashmir	27.53	2.65	26.69	43.13
6	Kerala	23.09	6.47	27.13	43.31
7	Madhya Pradesh	28.25	6.69	25.63	39.43
8	Madras	27.08	7.33	23.86	41.73
9	Maharashtra	30.45	5.98	25.08	38.49
10	Mysore	26.96	7.10	25.32	40.62
11	Orissa	31.66	5.86	23.67	38.81
12	Punjab	28.08	2.11	27.06	42.75
13	Rajasthan	25.52	4.71	27.60	42.17
14	Uttar Pradesh	28.56	2.39	26.64	42.41
15	West Bengal	32.55	2.11	26.23	39.11
	UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	42.06	1.85	21.50	34.59
2	Delhi	29.70	1.95	26.56	41.79
3	Himachal Pradesh	32.63	5.03	25.19	37.15
4	Laccadive, Minicoy and Amindivi Islands	20.65	Entirely Rural	29.74	29.55
5	Manipur	24.85	2.56	28.21	44.38
6	Tripura	24.26	10.07	25.51	40.16
7	Dadra and Nagar Haveli	23.73	5.74	24.99	45.54
8	Goa, Daman and Diu*	32.02	3.73	29.40	34.85
9	Pondicherry	34.23	5.61	22.84	37.32
10	North-East Frontier Agency				
11	Nagaland				
12	Sikkim				

*Figures relate to the year 1960.

Source : Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.





**PROPORTION OF MALE WORKERS TO TOTAL MALE POPULATION
IN AGE GROUP 15—59 IN RURAL AREAS, 1961**

Purpose : This map depicts the districtwise proportion of male workers to total male population in age group 15—59 in rural areas, 1961.

Method : The percentage figures of male workers to total male population in age group 15—59 in rural areas are calculated for each district and the data thus obtained are shown in the map by choropleth method by grouping into six categories—two above, one nearer to and three below the National Average (93.78%) as shown in the legend.

Salient Features : In all, 78 districts of the country show a very high participation rate of rural male population (above 96.50%). This is visible mainly in those States where occupations of the people are highly agrarian. These States are Madhya Pradesh, Andhra Pradesh, Rajasthan, Uttar Pradesh and Mysore. Among these states, 29 districts of Madhya Pradesh, 14 districts of Andhra Pradesh, 9 districts of Rajasthan and 8 districts of Mysore show a male participation rate of more than 96.50% in rural areas.

The second high range of participation rate (95.01—96.50%) includes 88 districts and they are concentrated in overwhelming number in the Peninsular part of the country. Barring 28 districts, all are located in the states of Peninsular India. Of these 28 districts, Uttar Pradesh alone has 18 districts showing a high male participation rate. They are in the *Terai* tract in the north and Bundelkhand area in the south. In *Terai* region, the male participation rate is high because the cultivation of sugarcane and jute in this area employs a large number of male workers at the time of harvesting and processing. The remaining 10 districts are scattered. In the Peninsular part, 12 districts of Maharashtra and 10 districts of Madhya Pradesh show a similar high participation rate. These are the cotton-growing areas which require large labour force at the time of harvesting.

There are 59 districts where the male participation rate is nearer to the National Average (93.78%). These districts are mainly in the Middle Ganga Plain, Chotanagpur Plateau, Shillong Plateau, Cauvery Delta, Western part of

Jammu and Kashmir, North Bihar Plain and the Union Territory of Tripura. There is hardly any special crop in these areas which requires employment of extra labour force at the time of sowing or harvesting.

The participation rate just below the National Average which ranges between 92.01 and 93.50% is found in 40 districts of the country, viz., 9 districts in Uttar Pradesh; 5 each in Rajasthan, Punjab and Bihar; 4 in Maharashtra; 2 each in Gujarat, Madras, Orissa and West Bengal and 1 each in Assam, Jammu and Kashmir and Himachal Pradesh. The Union Territory of North-East Frontier Agency also falls in this category.

The participation rate of male population is further low (90.51—92.00%) in 24 districts of the country. These areas are discernible in Northern Plain where the pressure of agrarian population is high. Unemployment and underemployment are quite significant in some parts of these areas.

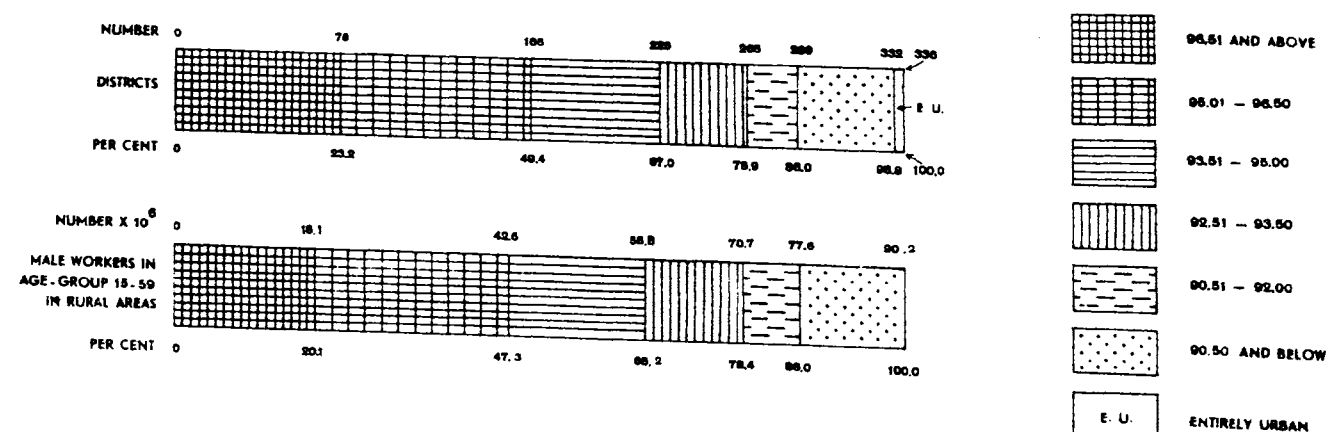
The participation rate of male workers is significantly low (90.50% & below) in 43 districts of the country of which 18 districts are distributed in the areas which are highly urbanized and industrialised, such as, Punjab Plain including Delhi and Bhagirathi *delta* of West Bengal. In these areas the transfer of male population from rural to urban areas for better livelihood has reduced the participation rate of rural male workers. It is noteworthy that the entire Kerala State also falls under this range. The remaining districts are scattered in the States of Bihar and Assam and the Union Territory of Manipur. A very high pressure of population in rural areas has kept the participation rate of male population very low in these states.

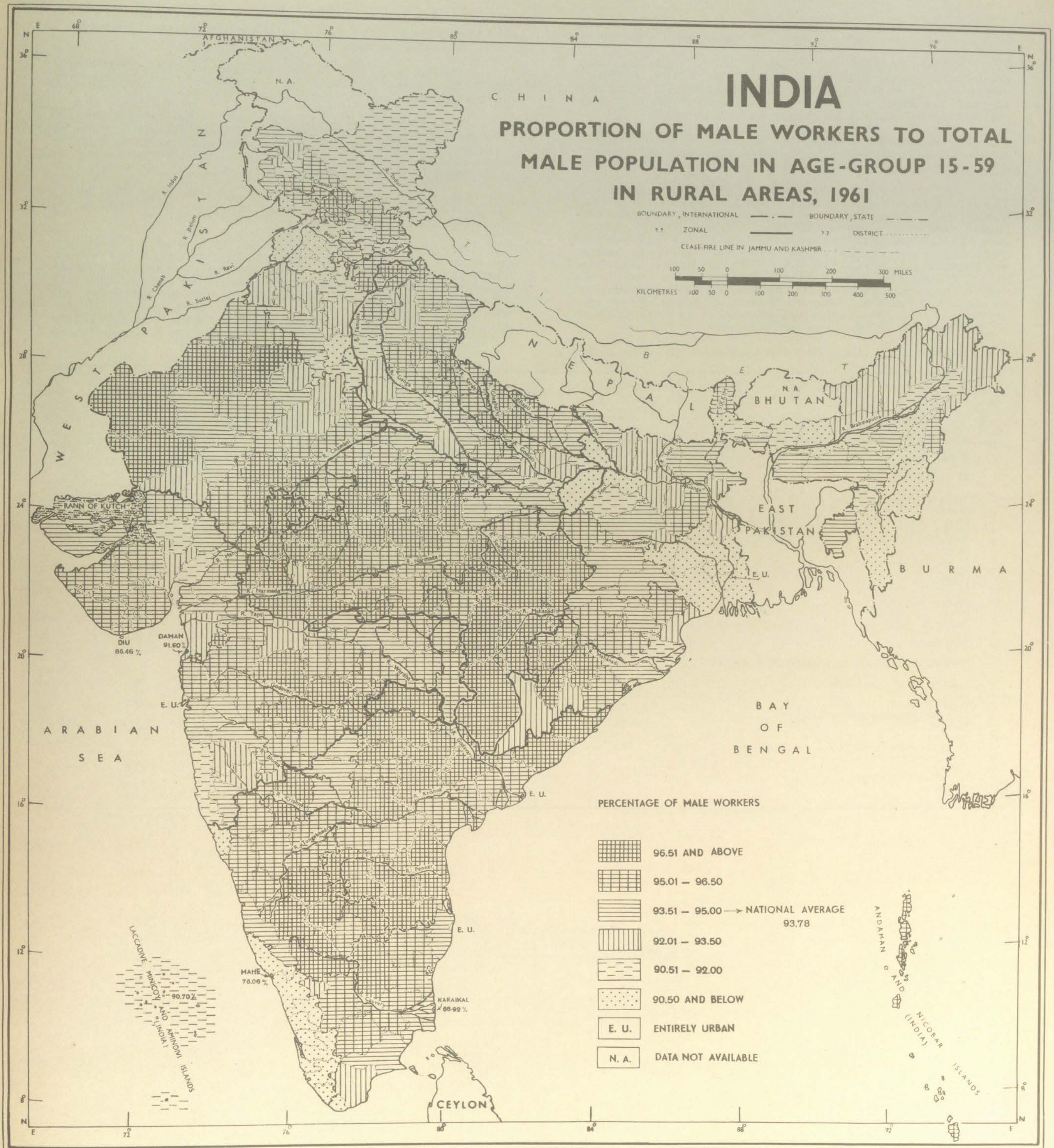
From the above analysis it may be summed up that participation rate of male population is high in areas where the occupations of the population are highly agrarian. In the areas which are highly urbanized and industrialised, the male participation rate is found low because of in-migration of rural population to these areas for better employment opportunities.

Sl. No.	State/Union Territory	Total male population in age group 15—59 in rural areas, 1961	Total male workers in age group 15—59 in rural areas, 1961	Percentage of col. 4 to col. 3
1	2	3	4	5
	INDIA*	96,222,375	90,239,759	93.78
	STATES			
1	Andhra Pradesh	8,071,172	7,796,606	96.60
2	Assam	2,987,813	2,709,150	90.67
3	Bihar	10,731,037	9,965,672	92.87
4	Gujarat	3,997,566	3,755,080	93.93
5	Jammu and Kashmir	858,936	796,813	92.77
6	Kerala	3,548,543	3,011,703	84.87
7	Madhya Pradesh	7,603,120	7,354,970	96.74
8	Madras	6,933,169	6,573,907	94.82
9	Maharashtra	7,371,734	7,010,320	95.10
10	Mysore	4,836,002	4,638,278	95.91
11	Orissa	4,478,264	4,221,400	94.26
12	Punjab	4,164,940	3,781,821	90.80
13	Rajasthan	4,599,667	4,381,659	95.26
14	Uttar Pradesh	17,563,903	16,604,273	94.54
15	West Bengal	7,155,265	6,434,063	89.92
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	20,301	19,519	96.15
2	Delhi	80,026	68,446	85.53
3	Himachal Pradesh	361,585	345,591	95.58
4	Laccadive, Minicoy and Amindivi Islands	6,256	5,674	90.70
5	Manipur	177,040	149,166	84.26
6	Tripura	277,979	269,954	93.52
7	Dadra and Nagar Haveli	15,529	15,163	97.64
8	Goa, Daman and Diu	134,836	114,263	84.74
9	Pondicherry	78,229	70,037	89.53
10	North-East Frontier Agency*	26,292	24,321	92.50
11	Nagaland	97,025	87,934	90.63
12	SIKKIM	46,146	43,976	95.30

*Excludes male population (147,100) of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.





PROPORTION OF MALE WORKERS TO TOTAL MALE POPULATION
IN AGE GROUP 15—59 IN URBAN AREAS, 1961

Purpose : This map depicts the proportion of male workers to the total male population in the age group 15—59 in urban areas of the country.

Method : Percentage data are grouped into six ranges: three above, one nearer to and two below the National Average (83.2%). Hatchings of varying intensities are selected in a descending order as shown in the legend to the map. The districts where there is no urban population are shown by the abbreviation 'E.R.' indicating that these areas are entirely rural.

Salient Features : According to 1961 Census, there are nearly 24.94 million males in the age group 15—59 living in urban areas, of which 20.75 million or 83.2% are economically active.

The highest percentage of male workers (88.1% & above) is noticed in 25 districts which are scattered all over the country. Madhya Pradesh has 5 such districts, Andhra Pradesh and Madras have 3 each and Mysore, Punjab, Orissa, Rajasthan and Uttar Pradesh have 2 each. The highest proportion of urban male workers is noticed in Durg district (92.7%) of Madhya Pradesh followed by Sundergarh district of Orissa (92.4%), the Union Territory of Andaman and Nicobar Islands (92.3%), Jalor district (91.2%) of Rajasthan, Simla district (91.1%) of Punjab and Adilabad district (91.0%) of Andhra Pradesh. The high percentages in the districts of Durg and Sundergarh are mainly due to the establishment of steel plants (Bhilai and Rourkela) and other mining and allied industries. The reason for such a high percentage in the remaining districts may also be attributed to the development of industries.

Districts with moderately high percentage of male workers

(86.1—88.0%) are found in pockets throughout the country. Madhya Pradesh with 12 such districts, Uttar Pradesh with 8 and Rajasthan with 7 are the States where some kind of concentration is found.

The next range (84.1 to 86.0%) embraces the maximum number of districts (83) falling in any single range. No pattern is easily discernible as they are scattered all over the country.

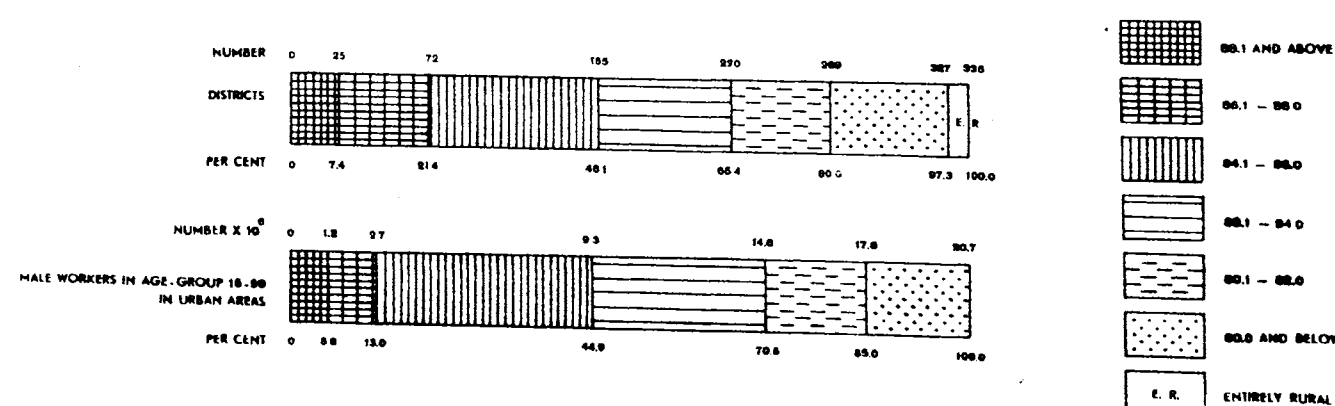
In the next range (82.1 to 84.0%) i.e. nearer to and below the National Average falls 65 districts. They too are mostly scattered. It is, however, interesting to note that Calcutta Industrial Region and Bangalore industrial nuclei which provide employment opportunities and have concentration of urban centres, come under this category.

The areas under the category just above the lowest range (80.1—82.0%) are seen mostly in Kathiawar in Gujarat, western coast of Maharashtra, the Brahmaputra Valley and Aravali range.

The last category (80.0% and below) covers 58 districts. Such areas are relatively numerous in the Union Territories of Manipur and Tripura, Cachar and Mizo Hills districts of Assam, West Bengal and southern portion of Kerala. Areas covered by this range are of two types. While districts, such as, 24-Parganas, Hyderabad, Poona and Baroda are highly industrialized and urbanised but due to pressure of population, their percentage is low the areas like Bikaner, Jodhpur, Alwar, Gorakhpur, Basti, Rewa, Mizo Hills and the Union Territories of Manipur and Tripura etc., reveal low percentage because the number of male workers is itself very low.

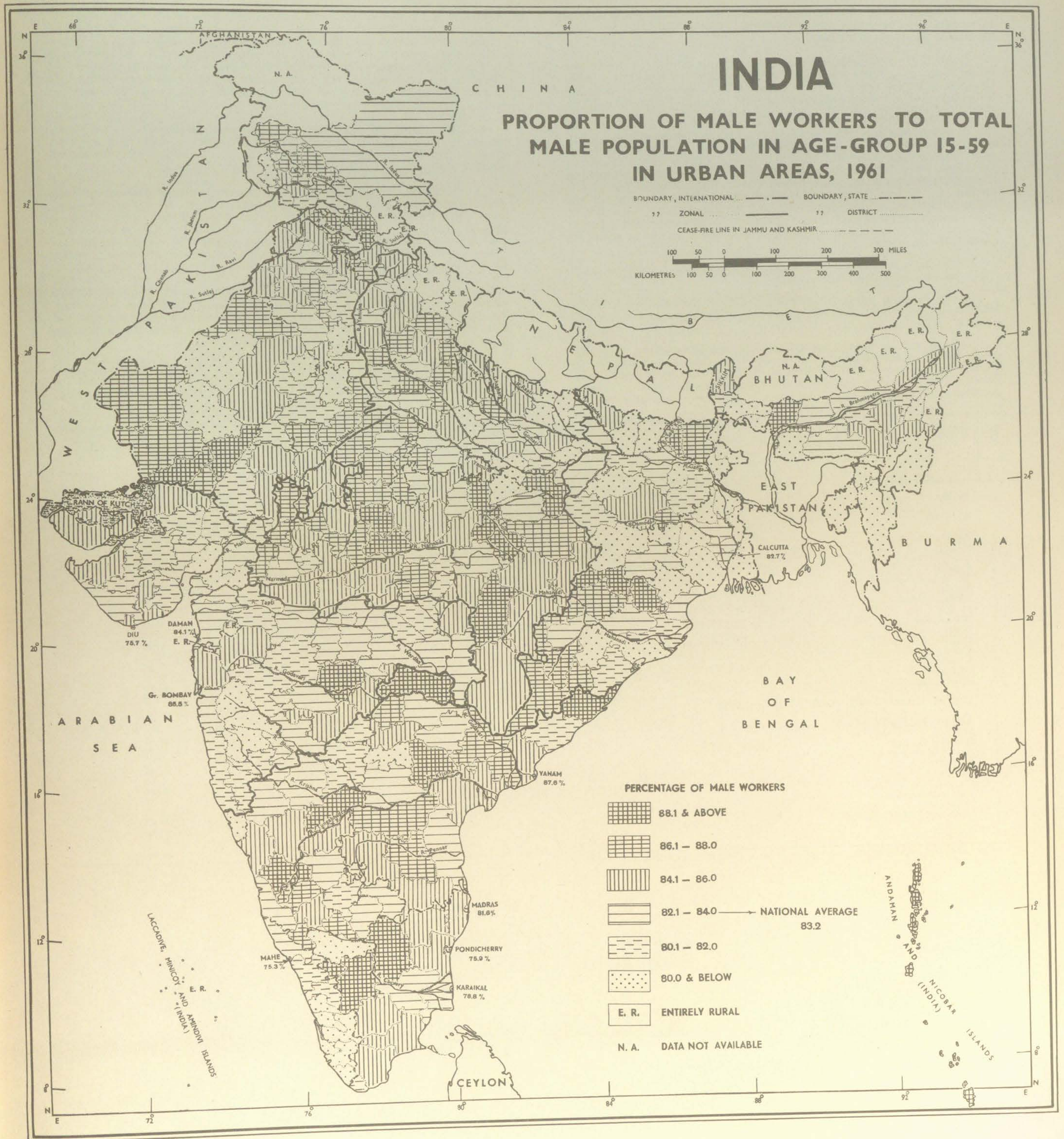
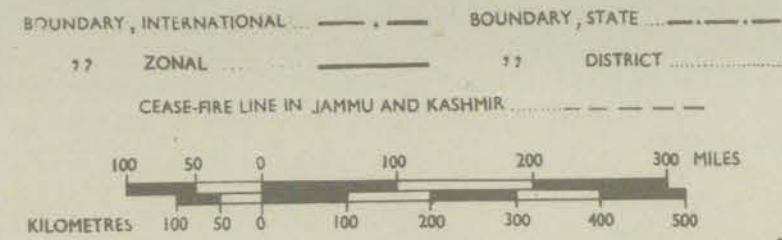
Sl. No.	State/Union Territory	Total male population in age group 15—59 in urban areas, 1961	Total male workers in age group 15—59 in urban areas, 1961	Percentage of male workers to total male population in age group 15—59 in urban areas, 1961
1	2	3	4	5
INDIA		24,936,109	20,745,872	83.2
STATES				
1	Andhra Pradesh	1,803,233	1,514,154	84.0
2	Assam	344,081	283,943	82.5
3	Bihar	1,252,261	1,025,642	81.9
4	Gujarat	1,555,865	1,276,180	82.0
5	Jammu and Kashmir	179,425	149,229	83.2
6	Kerala	692,087	544,127	78.6
7	Madhya Pradesh	1,418,508	1,212,867	85.5
8	Madras	2,646,144	2,242,604	84.7
9	Maharashtra	3,816,641	3,198,276	83.8
10	Mysore	1,526,632	1,277,982	83.7
11	Orissa	387,041	325,915	84.2
12	Punjab	1,254,089	1,050,201	83.7
13	Rajasthan	927,110	767,559	82.8
14	Uttar Pradesh	2,925,774	2,447,050	83.6
15	West Bengal	3,285,169	2,654,971	80.8
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	6,255	5,772	92.3
2	Delhi	779,892	664,230	85.2
3	Himachal Pradesh	22,654	19,085	84.2
4	Laccadive, Minicoy and Amindivi Islands	Entirely rural		
5	Manipur	18,900	12,998	68.8
6	Tripura	30,656	23,823	77.7
7	Dadra and Nagar Haveli	Entirely rural		
8	Goa, Daman and Diu	28,561	22,064	77.3
9	Pondicherry	24,574	19,027	77.4
10	North-East Frontier Agency	Entirely rural		
11	Nagaland	7,934	5,942	74.9
12	Sikkim	2,623	2,231	85.1

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.



INDIA

PROPORTION OF MALE WORKERS TO TOTAL MALE POPULATION IN AGE-GROUP 15-59 IN URBAN AREAS, 1961



**PROPORTION OF FEMALE WORKERS TO TOTAL FEMALE POPULATION
IN AGE GROUP 15—59 IN RURAL AREAS, 1961**

Purpose : This map represents the distribution of the female workers as percentage to total female population in the age group 15—59 in rural areas for each of the district in the country.

Method : Percentage data are grouped into six ranges—two above, one nearer to and three below the National Average (50.76%). Hatchings of different intensities from high to low are selected for these categories as indicated in the legend of the map. Abbreviation 'E.U.' is used for the districts which are entirely urban.

Salient Features : The map indicates that very high percentage (60.01% & above) of female workers to total female population in age group 15—59 in rural areas are seen in 166 districts of the country. There is a concentration of such districts in the plateau regions of India. These regions are—Western Ghat (7), Tamilnad Upland (3), Rayalaseema Plateau (5), Telangana Region (11), Chotanagpur Plateau (5) and Malwa Plateau (16). Some concentrations are also to be found in the north-eastern hills and plateaus (8), the hill districts of Uttar Pradesh (6), Himachal Pradesh (5), Punjab (2) and Jammu and Kashmir (4). Such high proportion of female workers in these areas may be attributed to the following reasons :—

(i) Male migration to industrial areas necessitates more and more female participation in household economic activities;

(ii) Need to utilise available labour force in the household to till the land which in plateau regions is often characterised by the existence of rugged terrains.

Proportion of female workers to total female population in the age group 15—59 in the range of 30.01 to 60.00 per cent is noticeable in 107 districts. Uttar Pradesh has (24), Bihar plain (10), Mysore (9), Madras (7) and Kerala (7). In the Middle Ganga Valley, Kerala and Madras regions, the female population is generally high. These are rice producing areas which require

sustained effort and patience for cultivation. This can be more efficiently conducted by the female workers. This mainly accounts for the medium proportion of women workers in these areas (30.01 to 60.00 per cent), otherwise the percentage figure is not very encouraging. In general, (i) high pressure of population and lack of employment opportunities for male population and (ii) social customs which do not permit women to work outside, stand always in the way of the rural women to work extensively thus sizing the percentage only to medium proportion of female workers.

The low percentage (30.00% & below) of female workers to total female population in the age group 15—59 are confined to Uttar Pradesh (24), Punjab Plain (12), West Bengal (11), coastal part of Orissa (3) etc. There are altogether 59 districts which fall in this low percentage group.

A brief analysis reveals that a very high percentage of female workers is concentrated in two regions (I) the southern plateau and (II) the northern and eastern hills and plateaus. Such a high percentage of female workers in these areas is mainly due to (I) concentration of tribal population, (II) limited resources, (III) lack of diversified occupational sources and (IV) rugged topography. These factors make the economic activity labour intensive and the womenfolk have to share the common lot and work for their sustenance.

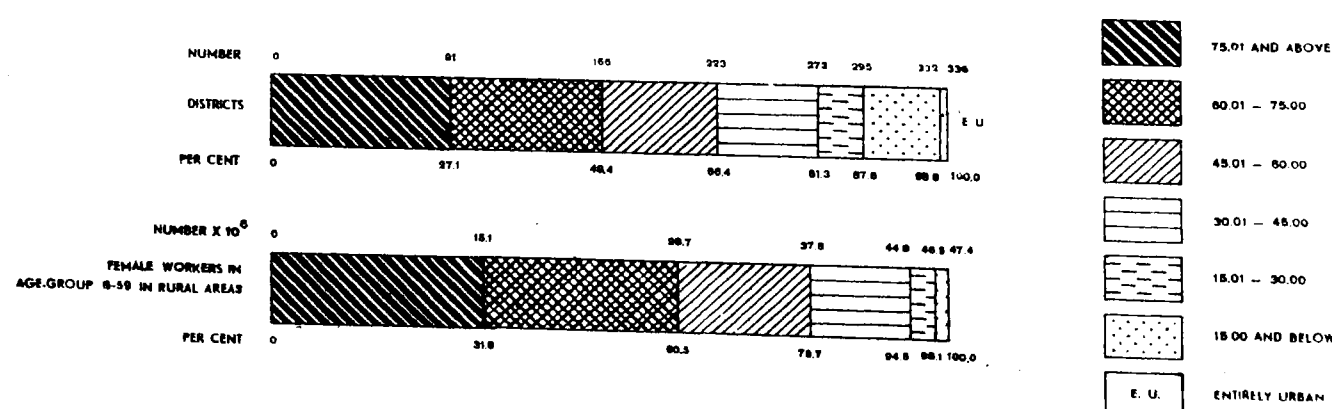
A moderately high percentage of female workers is found in Mysore and southern part of Madras, Kerala, eastern Uttar Pradesh and Bihar Plain. Social customs, do not permit the womenfolk to work in an extensive scale but their participation in rice cultivation is substantial which brings their percentage to a medium level.

A low proportion of female workers is seen in North Punjab Plain, Western Uttar Pradesh and West Bengal. The main reasons for such a low participation rate are social customs and unemployment among men which reduce employment opportunities for women.

Sl. No.	State/Union Territory	Total female population in age group 15—59 in rural areas, 1961	Total female workers in age group 15—59 in rural areas, 1961	Percentage of female workers to total female population in age group 15—59 in rural areas, 1961
1	2	3	4	5
	INDIA	93,344,652	47,384,284	50.76
	STATES			
1	Andhra Pradesh	7,960,907	5,718,868	71.84
2	Assam	2,518,879	1,465,476	58.18
3	Bihar	11,276,903	5,223,966	46.32
4	Gujarat	3,858,553	2,205,484	57.16
5	Jammu and Kashmir	746,557	355,785	47.66
6	Kerala	3,780,746	1,389,737	36.76
7	Madhya Pradesh	7,314,830	5,652,565	77.28
8	Madras	7,045,364	3,998,112	56.75
9	Maharashtra	7,453,844	5,707,036	76.57
10	Mysore	4,606,994	2,800,871	60.80
11	Orissa	4,542,066	1,943,341	42.79
12	Punjab	3,750,370	1,044,298	27.85
13	Rajasthan	4,184,191	2,692,977	64.36
14	Uttar Pradesh	16,524,870	5,154,977	31.20
15	West Bengal	6,534,837	1,214,181	18.58
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	9,669	3,846	39.78
2	Delhi	67,818	26,409	38.94
3	Himachal Pradesh	338,277	295,912	87.48
4	Laccadive, Minicoy and Amindivi Islands	6,792	5,729	84.35
5	Manipur	184,303	139,753	75.83
6	Tripura	256,771	101,224	39.42
7	Dadra and Nagar Haveli	14,753	13,607	92.23
8	Goa, Daman and Diu	150,480	80,909	53.77
9	Pondicherry	79,408	29,038	36.57
10	North-East Frontier Agency*	4,915	1,285	26.14
11	Nagaland	91,948	82,855	90.11
12	SIKKIM	39,607	36,043	91.00

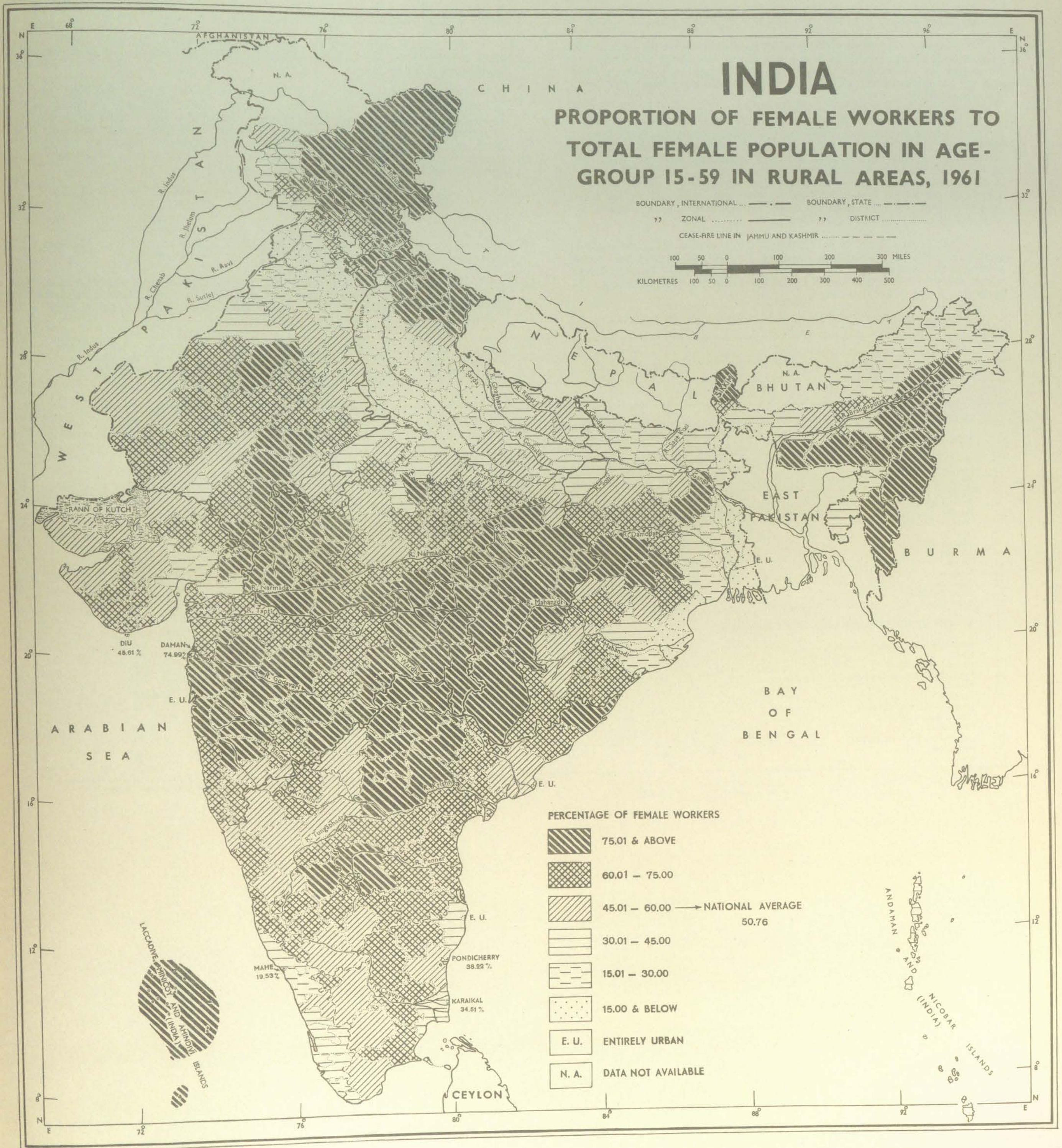
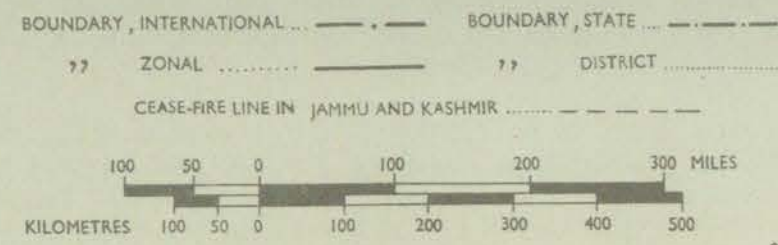
*Excludes female population (160,753) of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.



INDIA

PROPORTION OF FEMALE WORKERS TO TOTAL FEMALE POPULATION IN AGE- GROUP 15-59 IN RURAL AREAS, 1961



**PROPORTION OF FEMALE WORKERS TO TOTAL FEMALE POPULATION
IN AGE GROUP 15—59 IN URBAN AREAS, 1961**

Purpose : This map depicts districtwise proportion of female workers to total female population in the age group 15—59 in Urban Areas in 1961.

Method : The percentage figures of female workers to the total female population in the age group 15—59 for each district have been calculated and these data are shown in the map by choropleth method by grouping them into six categories—three above, one nearer to and two below the National Average (18.32%).

Salient Features : 56 districts exhibit a very high proportion (above 30.00%) of female workers in urban areas. This proportion is overwhelmingly high (above 50.00%) in those districts where the level of urbanization is distinctly low. They are Ladakh district of Jammu and Kashmir, Mizo Hills district of Assam, Uttar Kashi district of Uttar Pradesh, Mahbubnagar district of Andhra Pradesh and the Union Territory of Manipur. The other areas with a high proportion of female workers are the areas inhabited by the tribal population who have no social prejudice for their women to take to outdoor work and the southern part of the country.

The second high range (25.01—30.00%) extends over the cotton-growing districts of Maharashtra, Madhya Pradesh and Mysore and a few districts in the Aravalli Hills of Rajasthan. They number 47. Employment of female labour force at the time of cotton harvesting has, perhaps, inflated the participation rate of female workers.

Proportion of female workers is moderately high (20.01—25.00%) in

50 districts. Under this range fall 10 districts of Madhya Pradesh, 6 districts of Mysore and the remaining districts are scattered all over the country.

55 districts show an urban female participation rate of 15.01—20.00% which is nearer to the National Average. They are mostly found in the Northern part of the country.

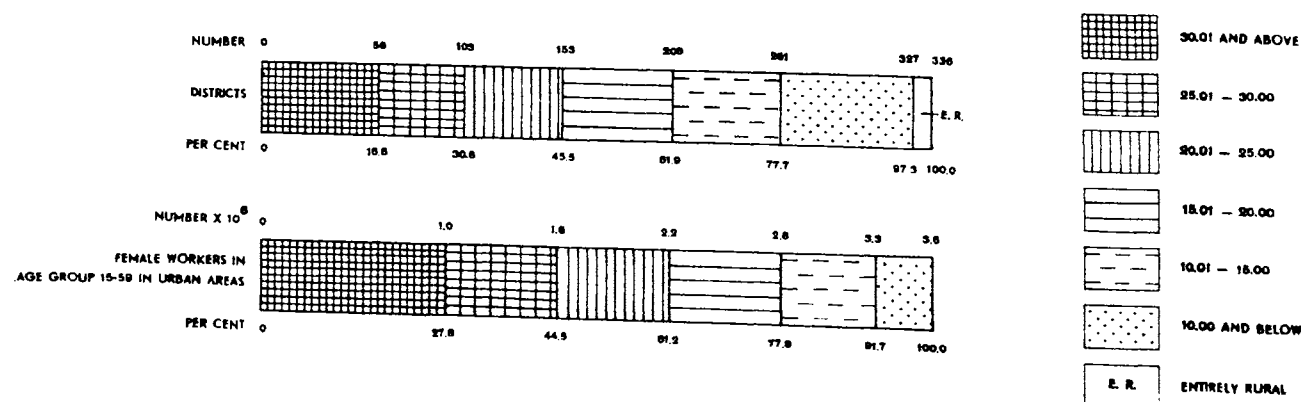
There are 53 districts which show female participation rate of 10.01—15.00% which is below the National Average (18.32%). They are mainly distributed in Uttar Pradesh (14), Western Rajasthan (7), Gujarat (6) and West Bengal (4). Brahmaputra Valley in Assam, Bihar, Punjab and Mahanadi Delta of Orissa has 3 such districts each. The Western Rajasthan, being a desert area, offers very limited employment opportunities to the inhabitants and hence the average participation rate is relatively low.

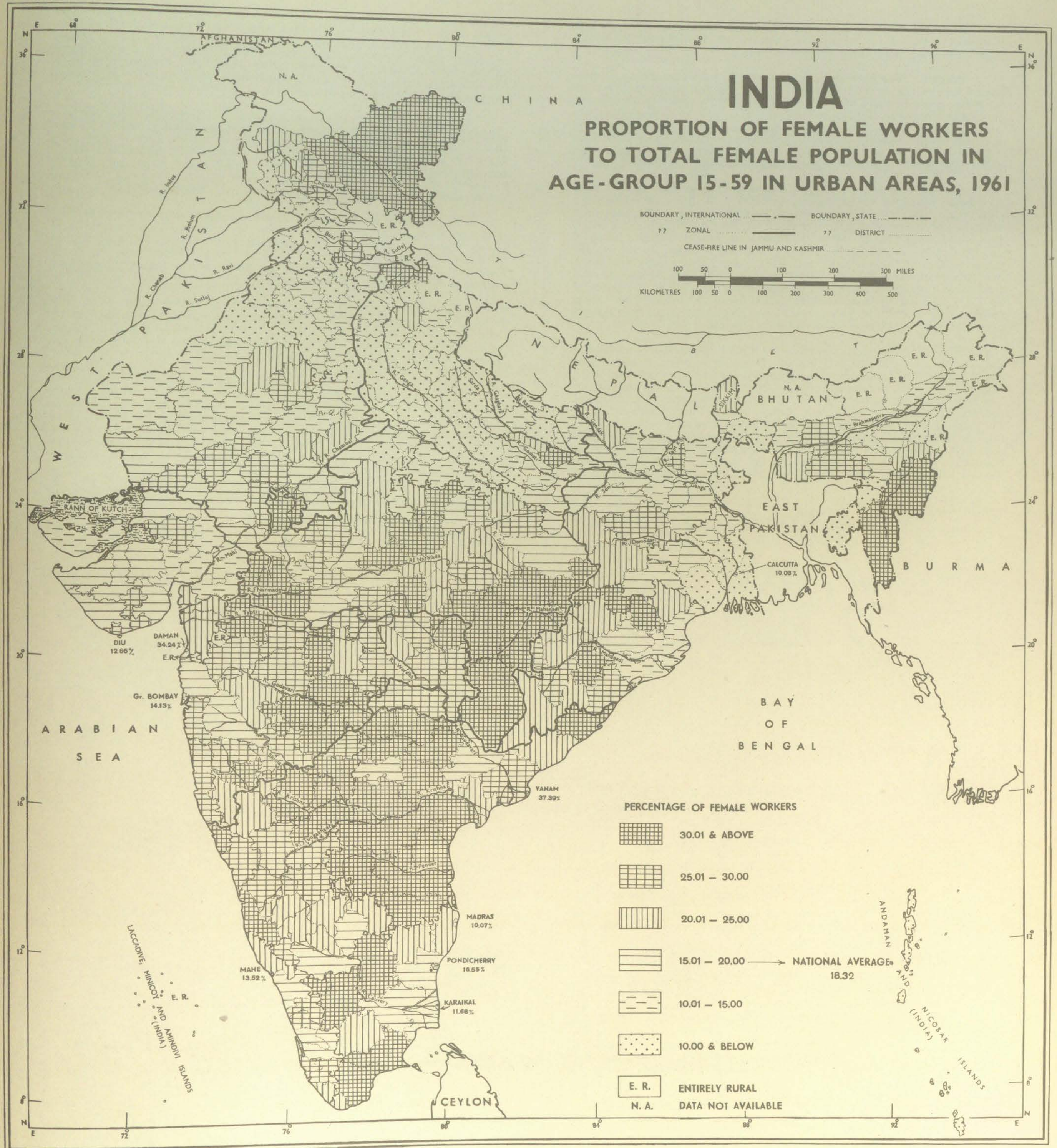
There are 66 districts where the participation rate of female workers is very low (10.00% & below). Uttar Pradesh has 31 such districts, Punjab 13 and West Bengal 10. It is worthnoticing that the districts surrounding the Calcutta industrial region show a very low proportion of female workers in urban areas. A similar feature is visible in the Punjab plain and Upper Ganga plain where the level of economic development is considerably high.

This map reveals that the participation rate of female workers in urban areas is more in the southern States than in the northern States, perhaps because of female literacy rate in southern States is much higher than that of northern States.

Sl. No.	State/Union Territory	Total female population in age group 15—59 in urban areas, 1961	Total female workers in age group 15—59 in urban areas, 1961	Percentage of female workers to total female population in age group 15—59 in urban areas, 1961
1	2	3	4	5
INDIA	...	19,462,422	3,566,006	18.32
STATES				
1 Andhra Pradesh	...	1,673,186	500,825	29.93
2 Assam	...	183,102	32,989	18.02
3 Bihar	...	921,178	161,431	17.52
4 Gujarat	...	1,348,651	212,228	15.74
5 Jammu and Kashmir	...	142,021	13,872	9.77
6 Kerala	...	686,535	148,089	21.57
7 Madhya Pradesh	...	1,141,393	276,401	24.22
8 Madras	...	2,506,222	583,658	23.29
9 Maharashtra	...	2,733,472	604,276	22.11
10 Mysore	...	1,316,083	323,913	24.61
11 Orissa	...	277,877	58,064	20.90
12 Punjab	...	952,458	77,255	8.11
13 Rajasthan	...	800,757	135,322	16.90
14 Uttar Pradesh	...	2,213,149	195,040	8.81
15 West Bengal	...	1,901,634	167,924	8.83
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	2,517	239	9.50
2 Delhi	...	543,912	43,064	7.92
3 Himachal Pradesh	...	14,630	2,924	19.99
4 Laccadive, Minicoy and Amindivi Islands	...	Entirely rural		
5 Manipur	...	18,196	12,014	66.03
6 Tripura	...	25,039	2,430	9.70
7 Dadra and Nagar Haveli	...	Entirely rural		
8 Goa, Daman and Diu	...	28,771	8,728	30.34
9 Pondicherry	...	26,188	4,332	16.54
10 North-East Frontier Agency	...	Entirely rural		
11 Nagaland	...	3,803	651	17.12
12 SIKKIM	...	1,648	337	20.45

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.





**PROPORTION OF WORKERS AND NON-WORKERS TO THE TOTAL
EMPLOYABLE POPULATION OF AGE GROUP 15—59, 1961**

Purpose : This map depicts the proportion of workers and non-workers to the total employable population of age group 15—59 with male and female break-up for each State/Union Territory in 1961.

Method : For each State/Union Territory, circles are drawn proportionate to the size of its total population in the age group 15—59. The percentage of workers and non-workers to the total population in this age group with a break-up of males and females is shown in the circles by proportionate sectors. The sectors representing non-workers are further shown by rectangles proportionate to the size of non-workers divided into grids with differentiation of males and females. Absolute figures indicated below the circles represent the total employable population of age group 15—59.

Salient Features : In 1961, the total number of workers in India in the age-group 15—59 is 161·94 million or 99·19% of the total employable population. The highest proportion of workers is recorded in Laccadive, Minicoy and Amindivi Islands (99·97%) followed by Nagaland (99·94%), Dadra and Nagar Haveli (99·91%), North-East Frontier Agency (99·88%) and Madhya Pradesh (99·84%). In all, 9 States and 10 Union Territories show the proportion of workers above and 6 States and 2 Union Territories below the National Average (99·19%). The lowest proportion of workers to the total employable population in the age group 15—59 is found in West Bengal (96·73%) followed by Kerala (96·85%) and Delhi (97·36%). This clearly indicates that in 1961 the unemployment was more acute in the most densely populated States and Union Territories in the country.

The proportion of male workers to the total employable population in the age group 15—59 is 67·98% for the country as a whole. In all, 5 States and 5 Union Territories show the proportion of male workers above the National Average. The highest proportion of male workers is recorded in North-East Frontier Agency (94·87%) followed by Delhi (88·93%), Andaman and Nicobar Islands (85·54%), West Bengal (83·96%) and Punjab (80·36%). The reason for this higher share of male workers is attributed to their low sex-ratio in the wake of immigration of male population for employment from other parts of the country. The number of females per 1,000 males is 894 in North-East Frontier Agency followed by 785 in Delhi, 617 in Andaman & Nicobar Islands, 878 in West Bengal and 864 in Punjab. The proportion of

male workers is below the National Average in those States where sex-ratio is usually high. The lowest proportion of male workers is found in Laccadive, Minicoy and Amindivi Islands (49·75%) followed by Manipur (51·39%); Dadra and Nagar Haveli (52·66%); Nagaland (52·89%); Himachal Pradesh (54·86%); Sikkim (55·81%); Madhya Pradesh (59·01%) and Andhra Pradesh (59·73%). The uneven distribution of participation rates maps out the areas where imbalances in economic development exist.

The female workers in the age group 15—59 constitute nearly one-third (31·24%) of the total employable population in the country. In all, 9 States and 7 Union Territories show the proportion of female workers above this figure (31·21%). Among them, the Union Territories of Laccadive, Minicoy and Amindivi Islands (50·22%), Manipur (48·10%) and Nagaland (47·05%) are significant because of their very high female participation rates. All these Territories show a very high sex-ratio where women enjoy a better social status.

The degree of unemployment in the country is to the extent of 0·81% of the total employable population, but the proportion of unemployment among women is negligible in all the States and Union Territories except Kerala (0·66%) and Maharashtra (0·52%). In 6 States and the Union Territories of Delhi and Pondicherry, the proportion of unemployed female workers is above the National Average (0·81%).

The highest proportion of non-workers to the total employable population is recorded in West Bengal (3·27%) followed by Kerala (3·15%), Delhi (2·64%) and Pondicherry (2·58%). In 9 States and 10 Union Territories the proportion of non-workers to the total employable population is below the National Average (0·81%). The lowest proportion is found in Laccadive, Minicoy and Amindivi Islands (0·03%).

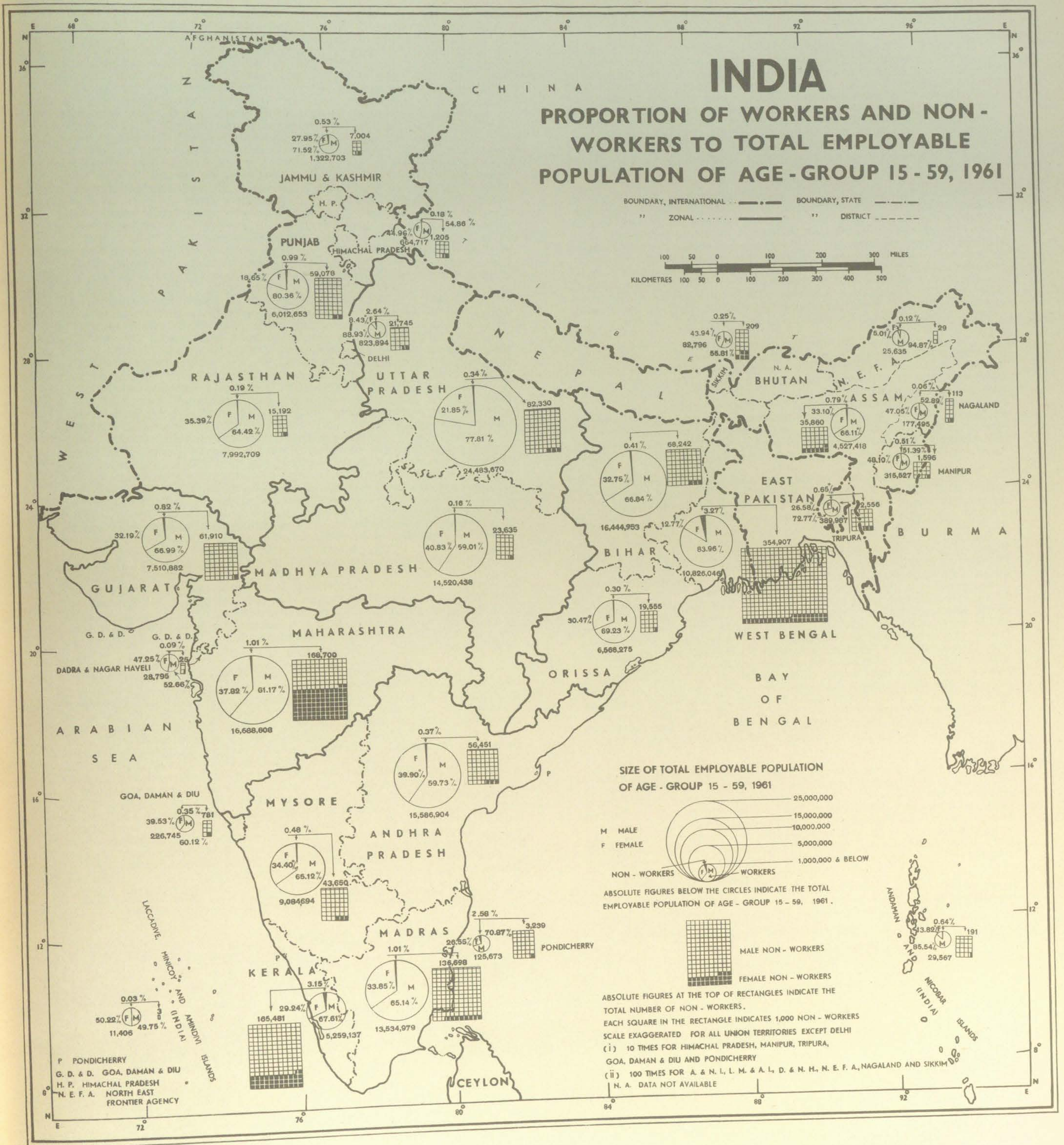
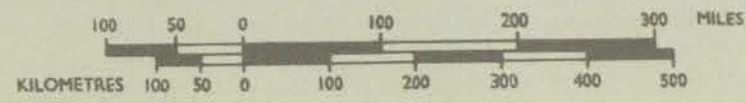
It is rather interesting to note that the State of West Bengal which is relatively more urbanised and industrialized shows the highest degree of unemployment. The great industrial and mining belt in the hinterland of Calcutta, the plantation district in its north have ever since been the great centres of attraction to the employable labour-force for remunerative employment. This has led to an increase in supply of labour with the consequent unemployment problem.

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

INDIA

PROPORTION OF WORKERS AND NON- WORKERS TO TOTAL EMPLOYABLE POPULATION OF AGE - GROUP 15 - 59, 1961

BOUNDARY, INTERNATIONAL BOUNDARY, STATE
" ZONAL " DISTRICT



INDUSTRIAL STRUCTURE OF MALE AND FEMALE POPULATION, 1961

Purpose : This map depicts the Statewise industrial structure of male and female population for 1961.

Method : The nine categories of industrial activities of the Census of India 1961 are grouped, for the purpose of this map, under the *Primary*, *Secondary* and *Tertiary* activities. I—Cultivator (Category I), II—Agricultural labourer (Category II) and III—Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities (Category III excluding mining and quarrying) are under *Primary* Sector; IV—Household Industry (Category IV), V—Mining, Quarrying and Manufacturing other than Household Industry (Category V and part of III) and VI—Construction (Category VI) are under *Secondary* Sector; VII—Trade & Commerce (Category VII), VIII—Transport, Storage & Communications (Category VIII) and Other Services (Category IX) are under *Tertiary* Sector.

In each State/Union Territory, pyramids are drawn to show the size of workers engaged in the nine industrial categories. The industrial categories are indicated by Roman figures and are inserted between two vertical parallel lines. The bars on the left hand side indicate the number of male workers and those on the right hand side indicate the number of female workers engaged in various industrial categories. The absolute and percentage scales to indicate the share of male and female workers in the various industrial categories are drawn respectively above and below the diagrams. Three colours have been used to differentiate economic activities under *Primary*, *Secondary* and *Tertiary* Sectors. Under each sector, the industrial categories are differentiated by hatching and line drawings as shown in the index of the map.

Salient Features : The diagrams depicted in this map bring out the following salient features—(i) the female participation rate in the three major industrial sectors is very much less than the male participation rate in all the States and Union Territories except Manipur, Laccadive, Minicoy and Amindivi Islands, Goa, Daman and Diu and Nagaland; (ii) an overwhelming proportion of the population in the country is engaged in *Primary* activities, especially in agriculture; (iii) the *Secondary* activities though important from the point of view of economic development, are least developed in the country and (iv) services account for a sizeable number of workers under *Tertiary* sector which ranks next to *Primary* sector in employment strength.

Out of 188.7 millions of working population in the country, about 135.4 million or 71.79% of the workers are engaged in *Primary* activities. Among the major States, those with more than 75% of their workers engaged in *Primary* activities are—Madhya Pradesh (81.64%), Rajasthan (79.19%), Bihar (78.82%), Jammu and Kashmir (78.56%), Assam (78.30%), Uttar Pradesh (75.74%) and Orissa (75.20%) and those with proportions between 50 and 75% are Mysore (73.24%), Maharashtra (71.78%), Andhra Pradesh (71.23%), Gujarat (69.09%), Punjab (64.81%), Madras (63.02%) and West Bengal (57.41%). Kerala State (46.55%), however, is an exception where the proportion of workers in *Primary* activities is less than 50%. The reason for this low proportion lies in the fact that Kerala has limited arable lands. People have, therefore, no other alternative but to depend largely on *Tertiary* and to some extent on *Secondary* activities. Among the Union Territories, Dadra and Nagar Haveli, Nagaland, Himachal Pradesh and Sikkim show more than 75% of their workers engaged in *Primary* activities and those with 50–75% of their workers engaged in *Primary* activities are Pondicherry, Tripura, Goa, Daman and Diu and Manipur and only the Union Territory of Andaman and Nicobar Islands has workers below 50%, i.e., 44.49% in *Primary* activities. The densely populated Union Territories show less than 10 per cent of their workers in *Primary* activities. These are—Delhi (7.95%) and Laccadive, Minicoy and Amindivi Islands (5.76%). The rugged, hilly and sparsely populated North-East Frontier Agency has only 1.94% of its workers under *Primary* activities.

Among the two dominant activities in the *Primary* Sector, the proportion of cultivators to total agricultural workers is much higher than that of agricultural labourers all over the country with the exception of Pondicherry where agricultural labourers are more than those of cultivators and in Andhra Pradesh, Kerala and Pondicherry where female agricultural labourers exceed female cultivators. The size of agricultural labourers, however, is greater in the South than in the North. This is, perhaps, due to the predominance of commercial crops, such as, cotton, groundnut, tobacco, coffee etc. in the

southern Peninsula which necessitates the employment of labour in number at the time of harvesting. It is also worthnoticing that with the exception of Kerala the proportion of female workers in agricultural activities is higher in the South than in the North. This may be due to the fact that there are less social restrictions in the South than in the North for women to work in the fields along with men during sowing, harvesting etc. The hill areas like Nagaland, Himachal Pradesh show an overwhelming number of agricultural workers as cultivators. They also show higher percentage of female cultivators or near parity between male and female cultivators. For example, in Himachal Pradesh, the male and female cultivators account for 41.50% and 41.75% of total workers respectively. The workers engaged in *Primary* activities, such as, livestock, forestry, fishing, hunting & plantations, orchards and other allied activities are insignificant in number all over the country except in the Union Territory of Andaman & Nicobar Islands (22.68%), Assam State (9.95%), Kerala State (8.25%), Laccadive, Minicoy and Amindivi Islands (4.65%), West Bengal State (3.61%) and Mysore State (3.13%). In Assam, Kerala, West Bengal and Mysore, plantation is an important industry which employs considerable number of workers. Hunting is a significant activity in the tribal areas of Madhya Pradesh, Assam and West Bengal. In Andaman and Nicobar Islands, Laccadive, Minicoy and Amindivi Islands and Kerala, fishing is an important field of employment. In Assam, Mysore, Kerala, Andaman and Nicobar Islands to some extent forestry is important.

About 23 million or 12.18 per cent of country's total workers are engaged in the *Secondary* activities which indicate that this sector of the economy is not well developed in the country. Nevertheless, the proportion of workers to total workers engaged in *Secondary* activities for the eight major States is above the National Average (12.17%). They are—Kerala (19.74%), West Bengal (18.29%), Madras (15.03%), Punjab (14.64%), Gujarat (14.19%), Andhra Pradesh (13.94%), Maharashtra (12.81%) and Mysore (12.76%). The proportion of workers in *Secondary* activities is also high in the Union Territories of Laccadive, Minicoy and Amindivi Islands (87.70%), Andaman and Nicobar Islands (36.94%), Delhi (26.44%), Manipur (23.06%) and Pondicherry (20.62%). It is worthnoticing that in most of the States/Union Territories the workers engaged in Household Industry exceed those in manufacturing other than Household Industry. But in Kerala, West Bengal, Gujarat, Maharashtra, Delhi, Pondicherry and Nagaland, manufacturing industries support more workers than the Household Industries. It is also interesting to note that the State of Bihar and the Union Territory of Goa, Daman & Diu show a considerable number of workers engaged in mining and quarrying. Compared to the number of workers engaged in household industry, mining, quarrying and manufacturing other than Household Industries, the proportion of workers engaged in construction activities for the country as a whole is very insignificant, i.e., 1.09%. Nevertheless, in Andaman and Nicobar Islands (17.45%), North-East Frontier Agency (6.55%) and Delhi (4.14%), the proportion is significantly high. The construction of houses for the rehabilitation of displaced persons from East Pakistan in Andaman and Nicobar Islands, the improvement of transport facilities in the hilly terrain of N.E.F.A. and the provision of accommodation for the ever increasing size of population in Delhi in the wake of its commercial and administrative importance has inflated the proportion of workers engaged in construction in these Union Territories to more than 4%.

In the country, about 30 million or 16.03 per cent of total workers are engaged in *Tertiary* activities which include Trade and Commerce, Transport, Storage and Communications and Other Services. Near about two-thirds of the total workers under *Tertiary* sector are engaged only in Services and the proportion of female workers in Services under *Tertiary* activities is high. Amazingly in N.E.F.A. (89.64%), Delhi (65.61%) and Kerala (31.71%), the proportion of workers in *Tertiary* activities is very much higher than the National Average. In N.E.F.A., the proportion of workers engaged in services is overwhelmingly high because the other economic activities other than Construction are hardly developed there. Delhi, the administrative headquarters of the country, supports the largest proportion of workers in Government Services. Among the States, Kerala has by far the largest share, i.e., 33.71% of workers in services, the reason for this being the limitation of arable lands and industrial potentialities. The other States/Union Territories which rank next to Kerala having proportion of workers in *Tertiary* activities more than the National Average are Pondicherry (29.88%), West Bengal (24.30%), Madras (21.95%) and Goa, Daman & Diu (20.80%).

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.



INDUSTRIAL STRUCTURE OF RURAL POPULATION, 1961

Purpose : The map depicts economic activities of rural population with a break up of males and females.

Method : According to 1961 Census, there are nine industrial categories which may be grouped under *Primary*, *Secondary* and *Tertiary* activities :

Cultivator; Agricultural labourer; those working in Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities fall under *Primary* activities.

Household industry; Manufacturing other than household industry; Mining, Quarrying and Construction are categorised under *Secondary* activities.

Trade & Commerce; Transport, Storage & Communications and Other Services are included in the *Tertiary* activities.

In each State/Union Territory, pyramidal diagrams are drawn to show the number of industrial workers engaged in nine industrial categories as described in the Index of the map. The horizontal bars on the left hand side indicate the number of male workers and those on the right hand side indicate the number of female workers engaged in various industrial categories denoted by the Roman figures inserted between the two vertical lines in the middle of the pyramidal diagram. The percentage and absolute scales to indicate the share of male and female workers in various categories are drawn respectively above and below the horizontal bars on either side. The bars indicating industrial categories under each group are shaded by one colour with different hatching. To differentiate *Primary*, *Secondary* and *Tertiary* activities, three different colours are used.

Salient Features : The pyramidal diagrams in the map reveal that the female participation rate in the country is very low in all the economic activities except in Cultivation including Agricultural Labourers under *Primary* sector. The number of workers except for the Household industry is insignificant in *Secondary* sector. In the *Tertiary* sector, the number of workers engaged in Services is higher than that in Transport, Storage & Communications and Trade & Commerce.

The map displays that more than three-fourths of total rural workers are engaged in *Primary* activities. The States of Maharashtra (88.18%), Madhya Pradesh (88.82%), Jammu and Kashmir (86.92%) and Rajasthan (86.54%) have more than 85% of their working population in *Primary* activities; while in other major States except Kerala (51.90%), workers engaged in *Primary* activities range between 75—85%. Among the Union Territories, Dadra and Nagar Haveli, Nagaland, Himachal Pradesh and Sikkim have more than 85% of their workers engaged in *Primary* activities. Only in Tripura 75—85% of

the working population is engaged in *Primary* activities while in Delhi, Andaman & Nicobar Islands, Goa, Daman & Diu and Manipur only 50—75% of total workers are engaged in *Primary* activities. The proportion of workers in *Primary* activities is strikingly low in Laccadive, Minicoy & Amindivi Islands (5.79%) and North-East Frontier Agency (1.94%).

Cultivators form the major portion of workers in *Primary* activities in all the States and Union Territories except in Laccadive, Minicoy and Amindivi Islands and Pondicherry. In general, the proportion of cultivators in *Primary* activities is much higher in Northern India than in Southern India; while that of Agricultural labourers is much larger in the Southern India than in Northern India. The female Agricultural labourers outnumber their male counterparts in Andhra Pradesh, Madhya Pradesh, Maharashtra, Mysore, Dadra & Nagar Haveli, Goa, Daman & Diu and Nagaland, whereas in all other States and Union Territories male cultivators and Agricultural labourers are in excess of their female counterparts. The proportion of Agricultural labourers in plantations and orchards etc. though less than that of cultivators is somewhat significant in West Bengal, Assam, Kerala and Mysore.

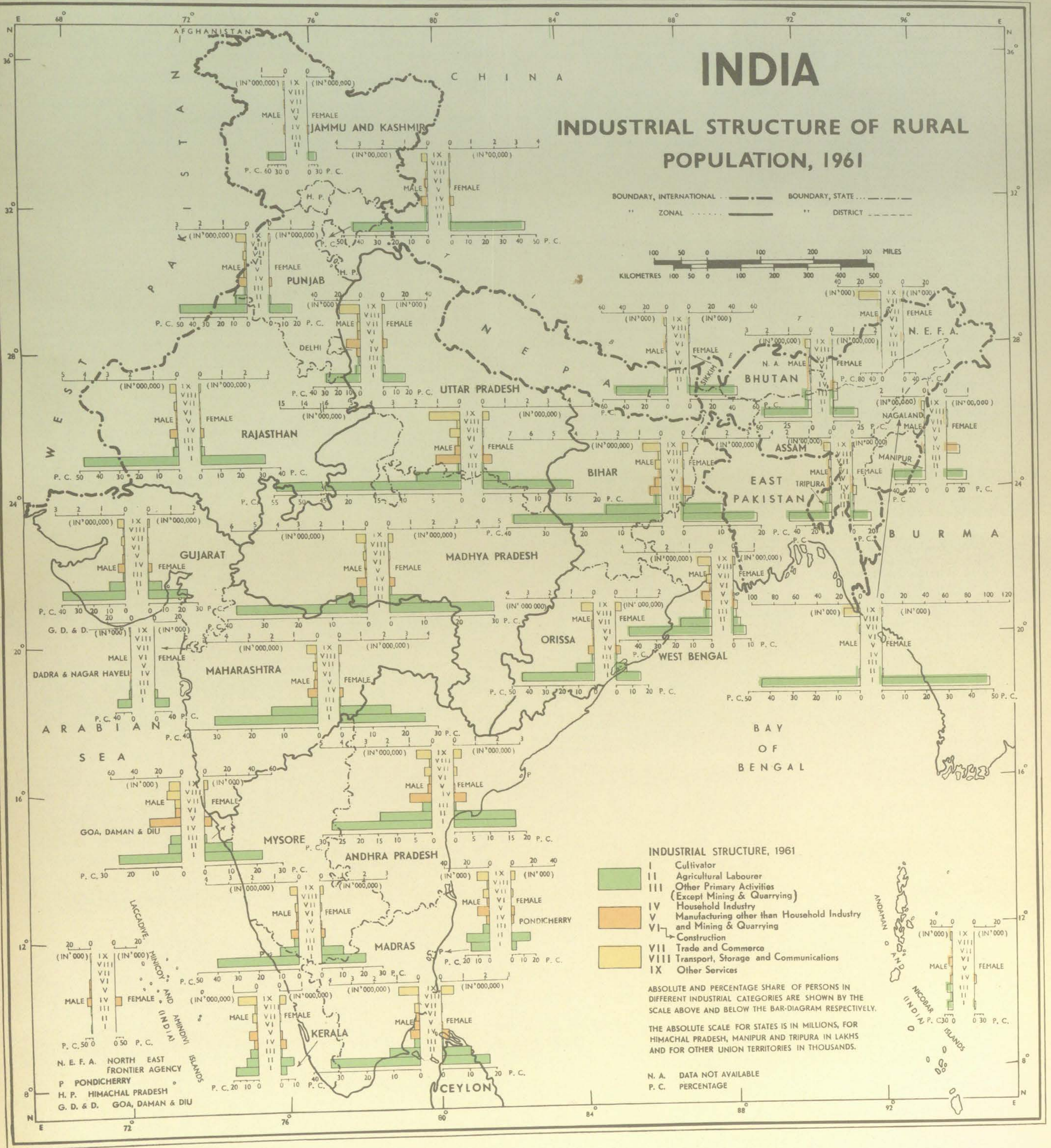
The components of *Secondary* sector are Household Industry, Mining and Quarrying, Manufacturing other than Household Industry and Construction. This sector is hardly developed in rural areas as is evident from the shorter length of the bars on either side of the pyramidal graphs. Household industry seems to be the strongest component of this sector in rural areas, though in most of the States the proportion of workers in Household Industry hardly exceeds 7%. In the Union Territory of Laccadive, Minicoy & Amindivi Islands, the proportion of workers in Household industry is exceptionally high (over 80%) and among the workers more than 65% are females. In the Union Territory of Manipur 19.97% are engaged in Household Industry and majority of them are female workers (18.4%). In West Bengal and the Union Territories of Delhi and Pondicherry, there are more workers in Mining, Quarrying and Manufacturing industries than in Household Industry. The number of workers engaged in Mining, Quarrying are negligible in the western and north-western part of the country, but they are significant in Bihar, West Bengal, Madhya Pradesh, Andhra Pradesh and the Union Territory of Goa, Daman and Diu. It is worth noting that the share of workers in Construction activities is very insignificant in rural areas.

The workers in *Tertiary* activities, comprising of Trade & Commerce, Transport, Storage & Communications and Other Services have an appreciable percentage of the working population in the States of Kerala (29.73%), Madras (14.89%), Orissa (13.33%), West Bengal (12.52%) and Punjab (12.23%). In all other States the workers engaged in *Tertiary* activities are below 10%. The share of female population in *Tertiary* activities is negligible in the country. Trade & Commerce, Transport, Storage & Communications employ very insignificant number of workers.

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.

INDIA

INDUSTRIAL STRUCTURE OF RURAL POPULATION, 1961



INDUSTRIAL STRUCTURE OF URBAN POPULATION, 1961

Purpose : This map depicts the Statewise industrial structure of male and female population for 1961.

Method : The Census of India, 1961 groups industrial activities into nine categories which are further classified for the purpose of this map under the *Primary*, *Secondary* and *Tertiary* sectors which are as follows :

Cultivator (category I), Agricultural Labourer (category II), those working in Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities (part of category III) are under the *Primary* sector.

Household Industry (category IV), Mining, Quarrying (part of category III), Manufacturing other than Household Industry (category V) and Construction (category VI) are included under the *Secondary* sector.

Trade & Commerce (category VII), Transport, Storage & Communications (category VIII) and Other Services (category IX) are included in the *Tertiary* sector.

In each State/Union Territory, pyramids are drawn to show the size of workers engaged in the nine industrial categories (indicated by Roman letters inserted in between two vertical parallel lines of the pyramid). Horizontal bars on the left hand side indicate the number of male workers, while bars on the right hand side indicate the number of female workers engaged in the various industrial categories. Absolute scale and percentage scale to indicate the share of male and female workers in various categories of industrial activities are drawn respectively above and below the diagram. Three colours have been used to differentiate industrial activities under *Primary*, *Secondary* and *Tertiary* sectors.

Salient Features : The pyramidal diagrams in this map bring out the following features—i) in the country, the female participation rate in all industrial activities is less than that of males; ii) the *Tertiary* sector is the most developed sector employing the largest proportion of urban workers in nearly all the States and Union Territories followed by the *Secondary* sector and iii) the *Primary* sector is the least important in urban economy employing an insignificant proportion of workers in urban areas.

The map reveals that in South India, the proportion of workers in urban areas in *Primary* activities to total workers is much higher in comparison to the corresponding proportions in North India. Except in Maharashtra, Andhra Pradesh, Madras and Kerala, all over India, cultivators show predominance in number, over the workers engaged in other *Primary* activities. It is significant to note that in the eastern part of India, the female participation rate in the *Primary* activities is very low. The third category of *Primary* activities, such as, work in forestry, livestock, fishing, plantations, orchards etc. is comparatively more important in Andaman & Nicobar Islands (19.68%), Kerala (5.58%), Pondicherry (4.62%), Madras (3.79%) and Goa, Daman & Diu (3.50%). While Andaman & Nicobar Islands and Madhya Pradesh have more workers in forestry, Madras and Kerala have more workers in plantations and fishing. Pondicherry has also considerable number of workers in fishing.

The *Secondary* activities which are more important than the *Primary* activities in urban centres support more than one-third of the workers in Manipur (51.40%); West Bengal (38.96%); Maharashtra (36.85%); Gujarat (36.59%); Andaman & Nicobar Islands (35.89%); Madhya Pradesh (35.58%); Madras (34.51%) and Mysore (34.44%). The proportion of workers in *Secondary* activities is relatively low in Bihar (33.24%); Uttar Pradesh (30.58%); Punjab (30.03%); Andhra Pradesh (29.69%); Pondicherry (28.07%); Rajasthan (27.43%); Delhi (27.07%); Orissa (26.23%) and Kerala (26.19%). The lowest proportion is found in Nagaland (8.16%).

Household Industries :

The Union Territory of Manipur shows 51.40% of its total workers under *Secondary* activities, but it supports 47.81% of these workers at Household Industries with an overwhelming proportion (40.10%) of female workers. Though not as high as Manipur, the household industry accounts for more than 10% of the workers in economic activities in Madras (12.27%); Andhra

Pradesh (11.96%); Mysore (10.21%) and Madhya Pradesh (10.17%). The States and Union Territories with less than 5% of their total workers at Household Industries are—Tripura (4.19%), West Bengal (2.25%), Delhi (1.70%), Andaman and Nicobar Islands (1.28%) and Sikkim (0.99%). The lowest proportion at household industry is in Nagaland (0.43%).

Mining, Quarrying and Manufacturing other than Household Industry :

Of the three categories of industrial activities included in the *Secondary* sector, Mining, Quarrying and Manufacturing are the most important activities in the urban areas of the country. More than one-fifth of the total workers are engaged in Mining, Quarrying and Manufacturing in West Bengal (33.59%), Maharashtra (28.27%), Gujarat (27.76%), Bihar (22.46%) and Delhi (21.01%).

The States of Madhya Pradesh, Madras, Punjab, Mysore, Kerala, Uttar Pradesh, Orissa and Union Territory of Pondicherry exhibit only 15–20% of their workers engaged in Mining, Quarrying and Manufacturing. While Nagaland, Manipur and Sikkim show a very negligible proportion of workers engaged in Mining, Quarrying and Manufacturing.

Construction :

In most of the States and Union Territories, the proportion of workers engaged in construction activities range between 5–10%—Sikkim (9.35%), Himachal Pradesh (6.30%), Rajasthan (5.97%), Mysore (5.67%), Madhya Pradesh (5.66%), Punjab (5.19%) and Tripura (5.15%). An exceptionally high proportion (22.77%) of workers is found engaged in construction activities in the urban areas of Andaman and Nicobar Islands which may mainly be due to the construction activity taking place in Port Blair in connection with the rehabilitation of the displaced persons. The lowest proportion engaged in construction activities is found in Kerala (1.83%).

The *Tertiary* activities embrace by far the largest employers of workers in urban areas. Majority of the States and Union Territories show more than 50% of their urban workers engaged in the *Tertiary* activities. While Nagaland (80.06%), Sikkim (79.19%), Assam (73.76%) and Delhi (71.58%) show higher proportion of workers; others such as, Madhya Pradesh (49.89%), Manipur (45.65%), Mysore (45.55%) and Andaman and Nicobar Islands (43.51%) show lesser proportion.

Services :

Services form the largest and most developed sector in the *Tertiary* activities. Most of the Union Territories and States, such as, Nagaland (60.26%), Sikkim (58.40%), Himachal Pradesh (48.77%), Delhi (45.99%), Orissa (43.08%), Jammu & Kashmir (42.99%) and Tripura (42.89%) show more than 40% of their total workers in services. All other States and Union Territories show more than 25% of their workers in services. It is worthnoticing that in Kerala and Pondicherry more than 10% of total workers are female workers engaged in services.

Trade & Commerce :

Trade & Commerce together occupy the second important place among three *Tertiary* activities. Most of the States and Union Territories show 10–20% of their total workers in Trade and Commerce. Only Assam (20.52%) shows more than 20% while Himachal Pradesh (9.89%) and Andaman & Nicobar Islands (8.17%) show less than 10% of their workers engaged in Trade and Commerce.

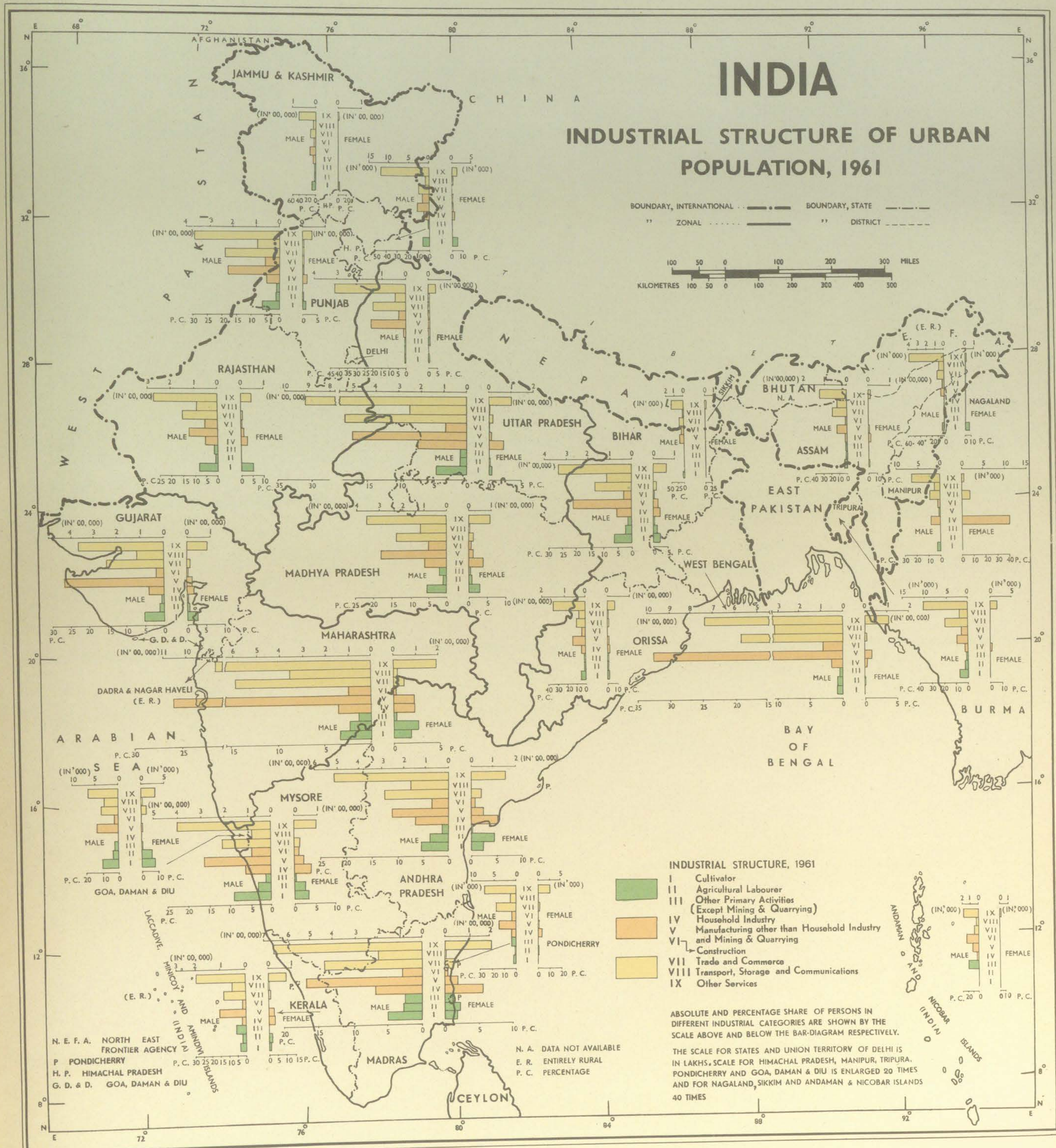
Transport, Storage and Communications :

Transport, Storage and Communications are the least developed economic activities among three major categories in *Tertiary* sector. Only Assam (13.31%) and West Bengal (10.28%) with their well developed waterway system of transport employ more than 10% of their total workers in Transport, Storage and Communications. The hilly regions of Manipur (4.83%), Andaman & Nicobar Islands (4.11%), Sikkim (3.71%) and Himachal Pradesh (3.49%) show a very small proportion of workers engaged in Transport, Storage and Communications.

Source : Census of India, 1961, Vol. I, India, Part II-A (ii)—Union Primary Census Abstracts.

INDIA

INDUSTRIAL STRUCTURE OF URBAN POPULATION, 1961



**Population Employed in Cultivation, Agricultural Labourer,
Livestock, Forestry, Fishing, Hunting & Plantations,
Orchards and Allied Activities**

PROPORTION OF CULTIVATORS TO TOTAL WORKERS IN AGE GROUP 15—59, 1961

Purpose : This map depicts the districtwise distribution of the proportion of cultivators to total workers in age group 15—59 during 1961.

Method : According to 1961 Census, "a person is working as cultivator if he or she is engaged either as employer, single worker or family worker in (a) cultivation of land or supervision or direction of cultivation of land owned or held from government and (b) Cultivation of land or supervision or direction of cultivation of land held from private persons or institutions for payment in money, kind or share".

For each district the percentage share of cultivators to total workers in the age group 15—59 is calculated. The percentage figures are grouped into six categories—three above (above 75.00%, 65.01—75.00% and 55.01—65.00%); one nearer to (45.01—55.00%) and two below (35.01—45.00% and 35.00% and below) the National Average (52.11%). Districts are then hatched from deep to light shades according to these categories

Salient Features : The map reveals that in the country, the percentage share of cultivators to total workers in the age group 15—59 is higher in the north than in the south. None of the districts in the south exhibits a proportion more than 75%.

Most of the forested hills and plateaus in the country, such as, the Western Himalayas, the Bastar Plateau, the Ranchi Plateau, Garo Hills, United Mikir and North Cachar Hills, Mizo Hills and Nagaland show more than 75% of their workers as cultivators. Limitation of employment opportunities other than agriculture, as imposed by nature is, perhaps, responsible for this very high proportion of workers dependent upon agriculture in these areas. Many of the above hill districts are sparsely populated and inhabited by tribal population who practise shifting cultivation. They do not employ any workers for their agricultural activities. As a result, the proportion of cultivators to total workers becomes high. Similarly the semi-desert plain in the west of Aravali Hills, the Aravali Hill region and the Upper Chambal Basin exhibit a high proportion (above 75%) of cultivators because there are very few employment opportunities other than in agriculture.

In contrast to the sparsely populated hill areas and semi-desert plains, the densely populated Sarjupar Plain with phenomenal productivity of its agricultural lands also shows an overwhelming proportion of its population engaged in agricultural activities. As the size of land holdings is small in this plain, the proportion of cultivators becomes obviously high.

A compact area extending over the forested hills and basins of eastern Madhya Pradesh, western Orissa and southern Bihar which are still under-urbanized and mostly inhabited by tribal population, shows a moderately high proportion (55.01—75.00%) of their workers as cultivators. The other areas with a similar share of cultivators to total workers are the predominantly tribal regions, such as, Western Malwa Plateau, Lower Chambal Valley and the relatively under-urbanized and economically depressed regions of South Karnataka Plateau, south-western Maharashtra, Bundelkhand plateau, the middle Ganga Plain, the lower Brahmaputra Valley and the Union Territories of Manipur and Tripura. Since the employment opportunities other than in agriculture are meagre here, the proportion of cultivators is high.

The proportion of cultivators to total workers in the age group 15—59 varies between 45% and 55% in the arid and semi-arid areas, such as, the districts of Jaisalmer and Jodhpur in Rajasthan, Kutch and north Kathiawar plateau in Gujarat. In these areas, as majority of the workers are engaged in pastoral activities, so agricultural labourers are available in less number. Most of the agricultural workers are cultivators. Hence the proportion of cultivators to total workers is on the high side (45.01—55.00%). Similar proportion of cultivators is found in the wheat, millets and gram growing areas extending over the Mahadeo Hills, middle Narmada Valley, Barmer and Kaimur Hills in Madhya Pradesh. These crops do not require much labour for their cultivation which obviously raises the proportion of cultivators to total workers in these areas. The relatively dry areas in the Peninsula extending over the western Maharashtra, western Telangana, northern Karnataka, western Rayalaseema and western Tamilnad Plateau of Madras, where cotton and groundnuts are cultivated without much use of agricultural labourers, have the proportion of cultivators to total workers in the range (45.01 and 55.00%). The densely populated regions, such as, the North Bihar Plain, coastal districts of Orissa, northern Andhra Pradesh, coastal Mysore and coastal Gujarat also show 45.01—55.00% of total workers as cultivators. These areas have small sized land holdings wherein not many agricultural labourers are employed, though rice is the predominant crop requiring lot of care for its cultivation. Even though, cheap labour is available because of high pressure of population on agricultural land, the general poverty of cultivators in these areas discourages the engagement of agricultural labourers. That is why the proportion of cultivators to total agricultural workers is moderately high.

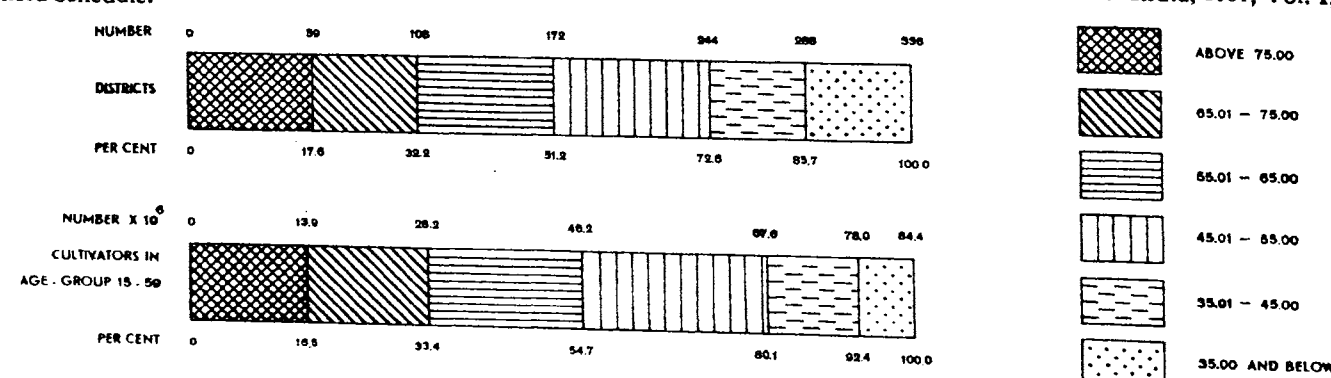
Between 35.01 to 45.00% of total workers are cultivators in some of the areas which are nearer to the major industrial nuclei of the country, such as, Madurai in Madras, Bangalore and Hubli in Mysore, Sholapur in Maharashtra; Surat and Baroda in Gujarat; Bhopal, Sagar, Jabalpur and Gwalior in Madhya Pradesh; Kanpur, Varanasi, Lucknow and Meerut in Uttar Pradesh; Ambala and other cities in North Punjab plain; Patna, Bhagalpur etc. in Bihar and Murshidabad, Berhampur, Krishnanagar in the middle Bhagirathi Delta. The reason for this lower proportion of cultivators to total workers in these areas may be attributed to the fact that since the employment opportunities in other economic activities are larger in view of the predominance of industrial and service centres, the workers are found lesser in number in agricultural activities. The other regions, where a similar low proportion (35.01—45.00%) of cultivators is found, belong to those where mining activities are predominant, e.g., Goa districts in the Union Territory of Goa, Daman & Diu, Dhanbad district in Bihar and eastern Telangana districts in Andhra Pradesh. In the districts of Darjeeling and Jalpaiguri in West Bengal where plantation agriculture is predominant, the proportion of cultivators to total workers is low. Tea plantation, being an estate farming, does not support any sedentary cultivator.

The lowest category (35.00% and below) is visible in the densely populated coastal plains of Kerala and Madras and Krishna-Godavari delta of Andhra Pradesh having highly productive lands with multiple cropping pattern growing tobacco, groundnut, sugarcane, coconut, spices etc. along with rice. These plains and deltas also support a large number of urban centres which offer opportunities for non-agricultural activities.

Sl. No.	State/Union Territory	Total workers in age group 15—59, 1961	Total cultivators in age group 15—59, 1961	Percentage of cultivators to total workers in age group 15—59, 1961
1	2	3	4	5
INDIA*	...	161,935,921	84,391,700	52.11
STATES				
1 Andhra Pradesh	...	15,530,453	6,318,771	40.69
2 Assam	...	4,491,558	2,843,904	63.32
3 Bihar	...	16,376,711	8,821,414	53.97
4 Gujarat	...	7,448,972	3,881,825	52.11
5 Jammu and Kashmir	...	1,315,699	989,719	75.22
6 Kerala	...	5,093,656	994,367	19.52
7 Madhya Pradesh	...	14,496,803	9,037,734	62.34
8 Madras	...	13,398,281	5,582,535	41.67
9 Maharashtra	...	16,519,908	7,508,089	45.45
10 Mysore	...	9,041,044	4,870,255	53.87
11 Orissa	...	6,548,720	3,722,649	56.85
12 Punjab	...	5,953,575	3,259,957	54.76
13 Rajasthan	...	7,977,517	5,887,426	73.80
14 Uttar Pradesh	...	24,401,340	15,365,367	62.97
15 West Bengal	...	10,471,139	3,895,761	37.20
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	29,376	5,657	19.26
2 Delhi	...	802,149	46,921	5.85
3 Himachal Pradesh	...	663,512	548,583	82.68
4 Laccadive, Minicoy and Amindivi Islands	...	11,403	134	1.18
5 Manipur	...	313,931	203,959	64.97
6 Tripura	...	387,431	245,762	63.43
7 Dadra and Nagar Haveli	...	28,770	21,347	74.20
8 Goa, Daman and Diu	...	225,964	95,638	42.32
9 Pondicherry	...	122,434	18,744	15.31
10 North-East Frontier Agency	...	25,606	143	0.56
11 Nagaland	...	177,382	152,534	85.99
12 SIKKIM	...	82,587	72,505	87.79

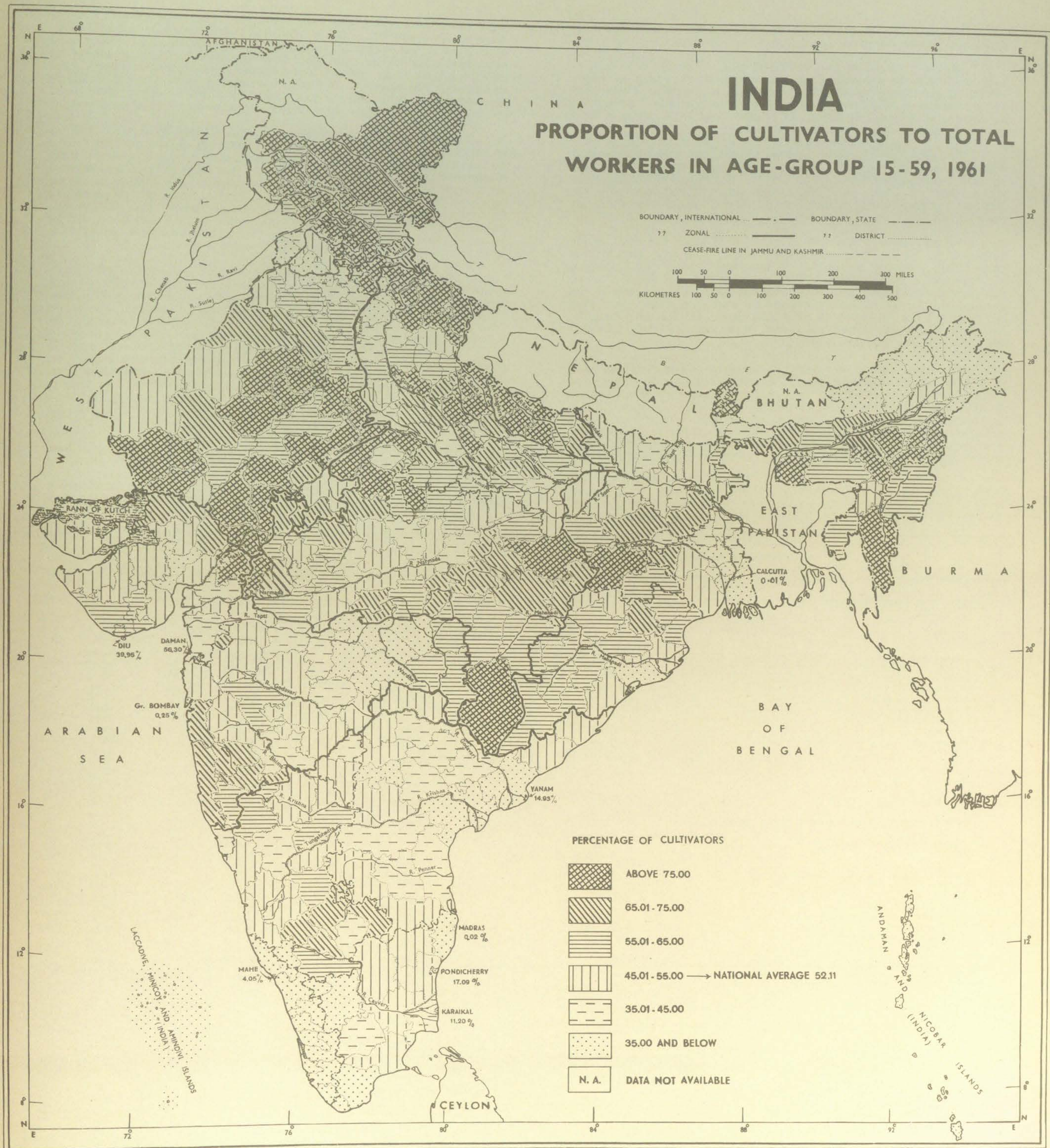
*Excludes 297,853 population of N.E.F.A. for which an abridged schedule was canvassed instead of the General All-India Individual Schedule and Household Schedule.

Source : Census of India, 1961, Vol. I, India. Part II-B(i)—General Economic Tables.



INDIA

PROPORTION OF CULTIVATORS TO TOTAL WORKERS IN AGE-GROUP 15-59, 1961



**PROPORTION OF CULTIVATORS TO TOTAL RURAL
POPULATION, 1961**

Purpose : This map depicts the proportion of cultivators to total rural population for each district.

Method : According to the 1961 Census, "a person is working as cultivator if he or she is engaged either as employer, single worker or family worker in (a) cultivation of land or supervision or direction of cultivation of land owned or held from Government and (b) cultivation of land or supervision or direction of cultivation of land held from private persons or institutions for payment in money, kind or share".

The percentage figures of cultivator to total rural population for each district are shown by choropleth method. The National Average of cultivators to total rural population works out to 27.19%. The district figures have been grouped into six ranges—three above, one nearer to and two below the National Average (27.19%) as shown in the legend. The districts which are *entirely urban* are shown by 'E.U'.

Salient Features : The map reveals that in about two-thirds of the districts in the country, the share of cultivators to total rural population is below 35.00%. None of the districts in India records more than 62.00% of its population as cultivators. It is worthnoticing that the percentage share of cultivators declines considerably in the most densely populated parts of the country, such as, the northern plains and all along the coastal plain from the Hooghly Delta right down to the Kerala State. On the other hand, the land with inhospitable climate and rugged terrain being sparsely inhabited offers larger area to each cultivator.

The lowest proportion (15.00% & below) of cultivators to total rural population is recorded in those districts where land values are high because of their higher land productivity and high pressure of population. These areas are found in all the districts of Kerala; East and West Godavari districts of Andhra Pradesh; Union Territory of Pondicherry; the Hooghly Delta of West Bengal; Jullundur and Gurdaspur districts of Punjab and Laccadive, Minicoy and Amindivi Islands. The Union Territories of Andaman and Nicobar Islands and North-East Frontier Agency show a low percentage of rural cultivators.

The next higher range 15.01–25.00% is visible mainly in the overpopulated coastal plains, especially in the river Deltas of the east coast, north Bihar Plains, southern Punjab Plain, the upper Ganga-Yamuna *doab*, Wardha-Wainganga basin and the Mahi river basin. The irrigational facilities

make the alluvial soils very productive in these areas. The pressure of population though not as high as in the aforesaid districts having less than 15.00% of their rural population as cultivators is still considerable. The pull of agriculture being greater than other activities, larger number of people are engaged in agricultural activities and there are more cultivators in total rural population. The plantation districts of Darjeeling, Jalpaiguri and Cachar in the north-eastern India and the districts of Nilgiri and Coorg in South India also have similar percentage share of cultivators among the rural population.

The range 25.01–35.00% nearer to the National Average (27.19%) is visible more in the districts of Peninsular plateau than in the northern plains. The lesser productivity of land and the lesser density of population rise slightly the percentage share of cultivators to in the total rural population compared to the areas of higher productivity considered earlier. The arid and semi-arid regions of western Rajasthan and southern Punjab; heavy rainfall regions of Brahmaputra Valley and the Union Territories of Manipur and Tripura also show 25.01–35.00% of cultivators among the rural population mainly because of limited land available for agriculture due to lack of water facilities in the former areas and frequency of floods in the latter areas.

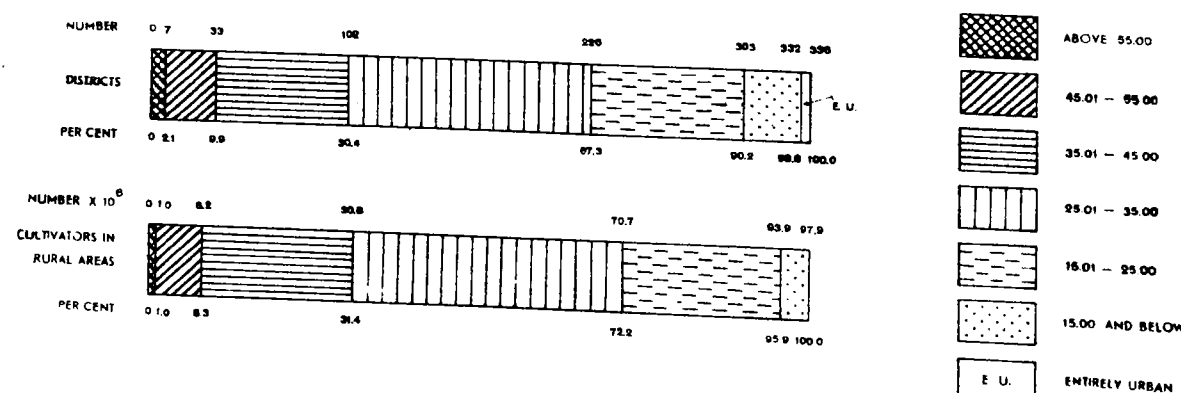
The next two higher ranges, viz., 35.01–45.00% and 45.01–55.00% are found in the hill districts of Assam, southern Bihar, eastern Madhya Pradesh and Maharashtra, lower Chambal Valley and most of the districts of Rajasthan, the Himalayan regions of Jammu & Kashmir, Punjab, Himachal Pradesh and Uttar Pradesh, the districts along the western Ghats in Maharashtra and the Karnataka plateau in Mysore State. In many of these regions, the proportion of tribal population to total population is high. The tribal customs maintain common ownership of land. These areas being hilly and rugged terrain offer less opportunities in economic fields other than agriculture. Even in those areas where mining activities have developed, the labourers have their own lands in the countryside and work on them during the agricultural season. All these factors contribute towards the increase in the proportion of cultivators to the rural population.

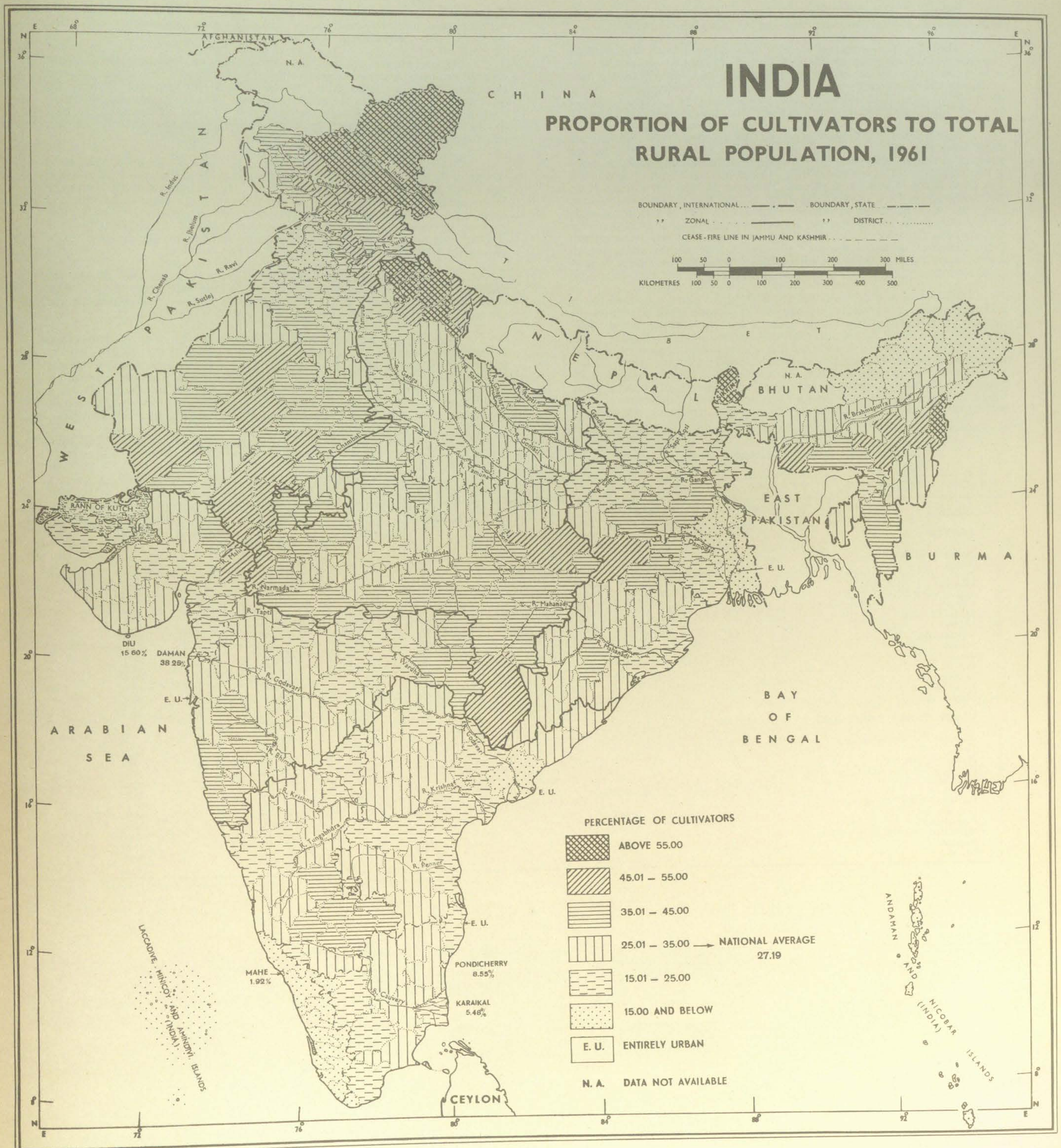
The largest percentage share of cultivators (above 55.00%) in total rural population is found in the inhospitable regions of Ladakh district in Jammu and Kashmir, hill districts of Uttar Pradesh, Tuensang area of Nagaland and Sikkim. Agriculture being the main occupation of the sparsely populated regions, mostly people are owner-cultivators resulting in the high percentage share in total rural population.

Sl. No.	State/Union Territory	Total rural population	Total rural cultivators	Percentage of rural cultivators to total rural population
1	2	3	4	5
INDIA*		360,000,315	97,888,882	27.19
STATES				
1	Andhra Pradesh	...	...	...
2	Assam	29,708,939	7,304,609	24.49
3	Bihar	10,959,744	3,313,236	30.23
4	Gujarat	42,541,690	10,250,842	24.10
5	Jammu and Kashmir	15,316,726	4,390,386	28.66
6	Kerala	2,967,661	1,128,461	38.03
7	Madhya Pradesh	14,349,574	1,141,391	7.95
8	Madras	27,745,174	10,471,035	37.74
9	Maharashtra	24,696,425	6,247,978	25.30
10	Mysore	28,391,157	8,521,659	30.02
11	Orissa	18,320,279	5,580,987	30.46
12	Punjab	16,439,196	4,322,465	26.29
13	Rajasthan	16,218,217	3,906,681	24.09
14	Uttar Pradesh	16,874,124	6,924,649	41.04
15	West Bengal	64,266,506	18,278,977	28.44
UNION TERRITORIES AND OTHER AREAS		26,385,437	4,431,161	16.79
1	Andaman and Nicobar Islands	...	...	...
2	Delhi	49,473	6,398	12.93
3	Himachal Pradesh	299,204	50,280	16.80
4	Laccadive, Minicoy and Amindivi Islands	1,287,216	667,883	51.89
5	Manipur	24,108	139	0.58
6	Tripura	712,320	233,415	32.77
7	Dadra and Nagar Haveli	1,039,008	278,747	26.83
8	Goa, Daman and Diu	57,963	25,798	44.51
9	Pondicherry	526,003	104,754	19.92
10	North-East Frontier Agency*	280,082	21,295	7.60
11	Nagaland	38,705	153	0.40
12	SIKKIM	350,043	192,757	55.07
		155,341	92,686	59.67

*Excludes 297,853 population of N.E.F.A. for which an abridged schedule was canvassed instead of the general All-India Individual Schedule and Household Schedule.

Source : Census of India, 1961, Vol. I, India, Part II-(B) (i)—General Economic Tables.





**PROPORTION OF MALE CULTIVATORS TO TOTAL MALE
WORKERS IN AGE GROUP 15—59, 1961**

Purpose : This map depicts the districtwise percentage distribution of male cultivators to total male workers in the age group 15—59 in 1961.

Method : The percentage of male cultivators to total male working population in the age group 15—59 for each of the district in the country has been worked out and shown by choropleth method. The districtwise percentage figures have been grouped into six ranges—three above (Above 75·00%, 65·01—75·00% and 55·01—65·00%); one nearer to (45·01—55·00%) and two below (35·01—45·00% and 35·00% and below) the National Average (50·41%).

Salient Features : This map reveals that majority of the hill districts show more than 75·00% of their male population in the working age group as cultivators. This very high percentage of male cultivators is found in the hill districts of Assam (Garo Hills, United Mikir and North Cachar Hills and Mizo Hills); Tuensang district of Nagaland; Manipur; in Aravalli Hills; the hill districts of Uttar Pradesh; major part of Jammu & Kashmir and Sikkim. Other than these hill areas, the regions with a very high percentage of male cultivators are—the Malwa Plateau, Upper Chambal basin, the Surjapur basin and the Terai districts of Uttar Pradesh. Since economy of the above regions is predominantly agrarian, the male population have no alternative but to depend upon agriculture for their livelihood. Hence the percentage of male cultivators to total male working population is very high.

The next high proportion (65·01—75·00%) of male cultivators to the male population in working age group 15—59 is visible scattered all over the country. It is worthnoticing that the areas of such high proportion of male cultivators are more in the northern plains than in the southern peninsula. These areas whether in the North or in the South show a large proportion of their population as tribal and being less urbanised and industrialised. Here, as the opportunities for employment in other fields of activity are very few, the male population are mostly engaged in agriculture and majority of it either owns land or supervise cultivation. The high proportion of male cultivators to total male working population is, therefore, noticeable in a significantly compact and

large area in the north-eastern part of the peninsula which is potentially rich in forest, mineral and power resources. But this area is still underdeveloped and backward with predominance of tribal population.

An overwhelming part of the country shows its share of male cultivators to total male working population in the age group 15—59 below the National Average (50·41%). Nevertheless, this feature is predominant more in the southern peninsula than in the northern plains. Most of these regions grow cash crops like cotton, groundnut and other oilseeds. Obviously, the land values are high and the ownership of the land is restricted to smaller number of cultivators.

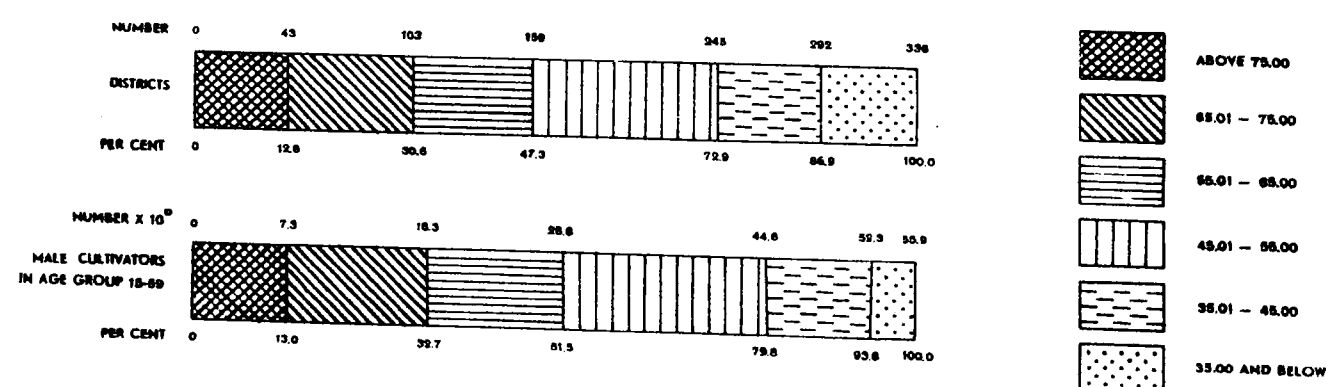
The lowest proportion (35·00% and below) of male cultivators to total male working population in the age group 15—59 is visible either in the lands with intensive farming or in the areas with plantation crops or in the highly industrialised belts. These are the districts in the deltas of Krishna and Godavari in Andhra Pradesh, Ludhiana and Jullundur districts of Punjab Plain showing intensive cultivation (intensity-index between 120 and 125). The Kerala State with its intensive cultivation in addition to the plantation crops also shows a low percentage (21·10%).

The plantation districts of Nilgiri and Coorg in the South and Darjeeling district in the North exhibit similar low percentage share of male cultivators because here available arable lands are mostly under plantation and are owned by a few big estate owners.

Some districts, e.g., Ahmedabad, Hyderabad with metropolitan cities, some highly industrialised districts in Damodar Valley and the Hooghly Region of the West Bengal, Coimbatore district of Madras, the districts forming Nagpur Basin in Maharashtra also show a very small share of male working population in the age group 15—59 as cultivators. The reason for this may be that a small percentage is left for agricultural activities since a large proportion of male population is absorbed in the industrial, commercial and other activities.

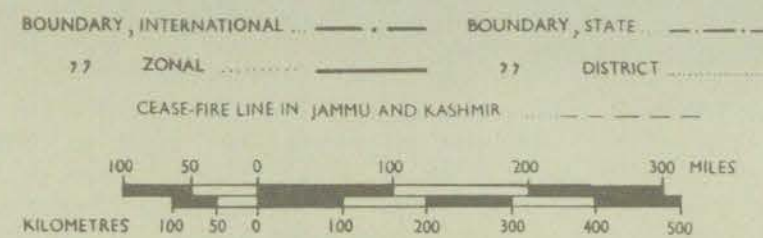
Sl. No.	State/Union Territory	Total male workers in age group 15—59, 1961	Total male cultivators in age group 15—59, 1961	Percentage of male cultivators to total male workers in age group 15—59, 1961
1	2	3	4	5
INDIA		110,985,631	55,946,255	50·41
STATES				
1	Andhra Pradesh	9,310,760	3,875,106	41·62
2	Assam	2,993,093	1,865,191	62·32
3	Bihar	10,991,314	5,848,348	53·21
4	Gujarat	5,031,260	2,417,837	48·06
5	Jammu and Kashmir	946,042	680,438	71·92
6	Kerala	3,555,830	750,126	21·10
7	Madhya Pradesh	8,567,837	5,033,723	58·75
8	Madras	8,816,511	3,611,397	40·96
9	Maharashtra	10,208,596	4,020,239	39·38
10	Mysore	5,916,260	3,118,617	52·71
11	Orissa	4,547,315	2,712,907	59·66
12	Punjab	4,832,022	2,418,401	50·06
13	Rajasthan	5,149,218	3,512,233	68·21
14	Uttar Pradesh	19,051,323	11,900,710	62·47
15	West Bengal	9,089,034	3,400,183	37·41
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	25,291	4,561	18·03
2	Delhi	732,676	28,727	3·92
3	Himachal Pradesh	364,676	269,207	73·82
4	Laccadive, Minicoy and Amindivi Islands	5,674	132	2·33
5	Manipur	162,164	123,030	75·87
6	Tripura	283,777	172,331	60·73
7	Dadra and Nagar Haveli	15,163	10,475	69·08
8	Goa, Daman and Diu	136,327	48,541	35·61
9	Pondicherry	89,064	15,045	16·89
10	North-East Frontier Agency	24,321	90	0·37
11	Nagaland	93,876	70,723	75·34
12	Sikkim	46,207	37,937	82·10

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.

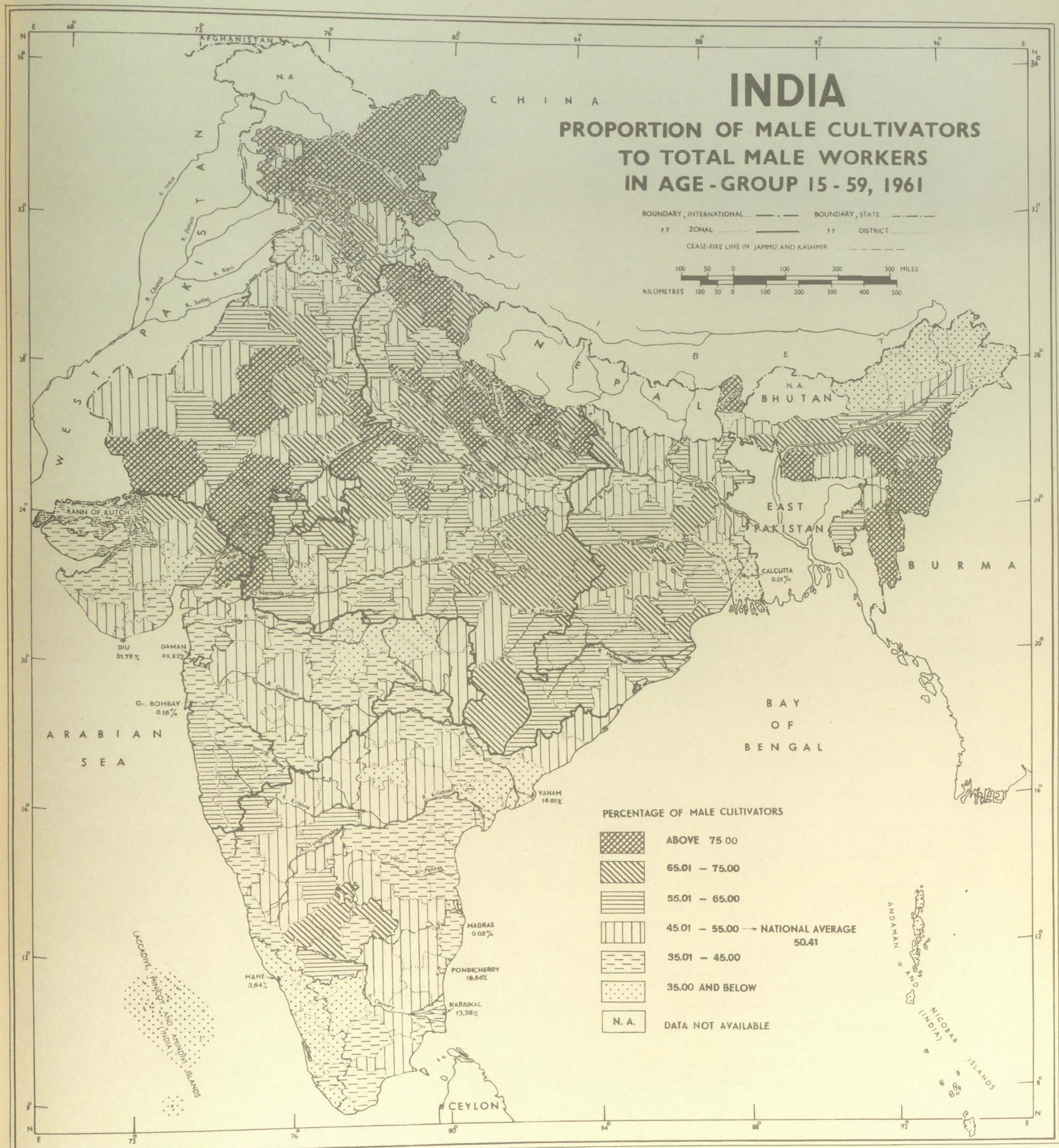
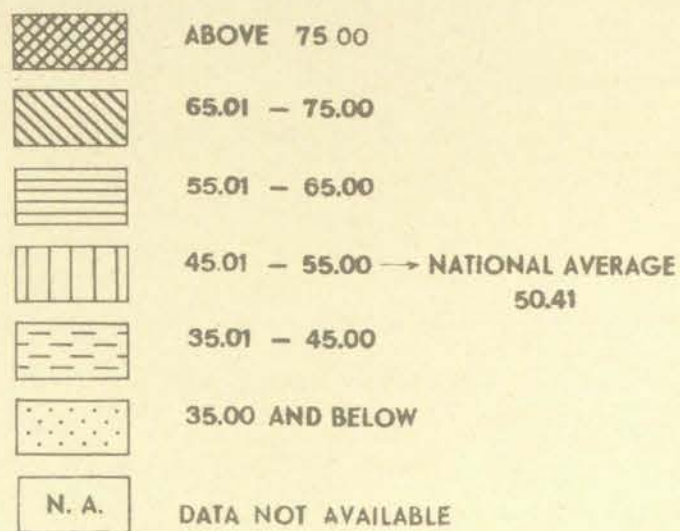


INDIA

PROPORTION OF MALE CULTIVATORS TO TOTAL MALE WORKERS IN AGE - GROUP 15 - 59, 1961



PERCENTAGE OF MALE CULTIVATORS



PROPORTION OF FEMALE CULTIVATORS TO TOTAL FEMALE WORKERS IN AGE GROUP 15—59, 1961

Purpose : This map depicts the percentage distribution of female cultivators to the total female workers in the age group 15—59 for each district in the country during 1961.

Method : According to 1961 Census, "a person is working as cultivator if he or she is engaged either as employer, single worker or family worker in—cultivation of land or supervision or direction of cultivation of land owned or held from Government and (b) cultivation of land or supervision or direction of cultivation of land held from private persons or institutions for payment in money, kind or share".

The proportion of female cultivators to the female workers in the age group 15—59 for each of the districts in the country has been worked out and is shown by choropleth method. The districtwise percentage figures have been grouped into five categories—two above (Above 85.00% and 65.01—85.00%); one nearer to (45.01—65.00%) and two below (25.01—45.00% and 25.00% & below) the National Average (55.83%).

Salient Features : The map reveals that the proportion of female cultivators to total female workers is significantly high in north-western and north-eastern hill districts, in Aravalli areas and desert plains of Rajasthan. It is conspicuously low in the delta areas, such as, the Bhagirathi-Hooghly delta, Mahanadi delta, Krishna and Godavari deltas and the coastal plains in Kerala State.

The hill districts of Punjab, Himachal Pradesh and Uttar Pradesh, Nagaland, Ranchi plateau in Bihar, Aravalli areas and the desert and semi-desert plains of Rajasthan exhibit more than 85.00% of their female workers in age group 15—59 as cultivators. Some of the hill districts in the north-western and eastern part of the country show a high female participation rate as cultivators, mainly because they support a high proportion of tribal population who have matriarchal society, where women inherit property and enjoy freedom of doing outdoor work. In other districts, the female participation rate as cultivators is high because the menfolk go to the plains for gainful employment leaving the supervision of agriculture to the womenfolk.

The proportion of female cultivators ranges between 65.01—85.00% in the forested hills and plateaus of south-eastern and north-western parts of Madhya Pradesh; southern Bihar; Assam valley except the districts of Kamrup and Lakhimpur; the Shillong plateau and the Union Territory of

Tripura. In these regions, the role of women in agriculture is almost at par with men because they have a high proportion of tribal population. The other regions with similar proportion of female cultivators are 5 districts of Southern Karnataka plateau; south-western part of Maharashtra embracing the Ghat districts and the coastal plain; western part of Kathiawar Peninsula in Gujarat; 11 districts extending over Gomati and Surjupar plains of Uttar Pradesh and southern Punjab plain. These regions include some important industrial and commercial nuclei of the country, such as, Bangalore, Bombay, Ahmedabad, Kanpur, Ambala etc. Each of these urban centres pulls the male labour-force in numbers from the rural areas which leaves the agricultural activities under the care of womenfolk. So the percentage of female cultivators to total female workers becomes high.

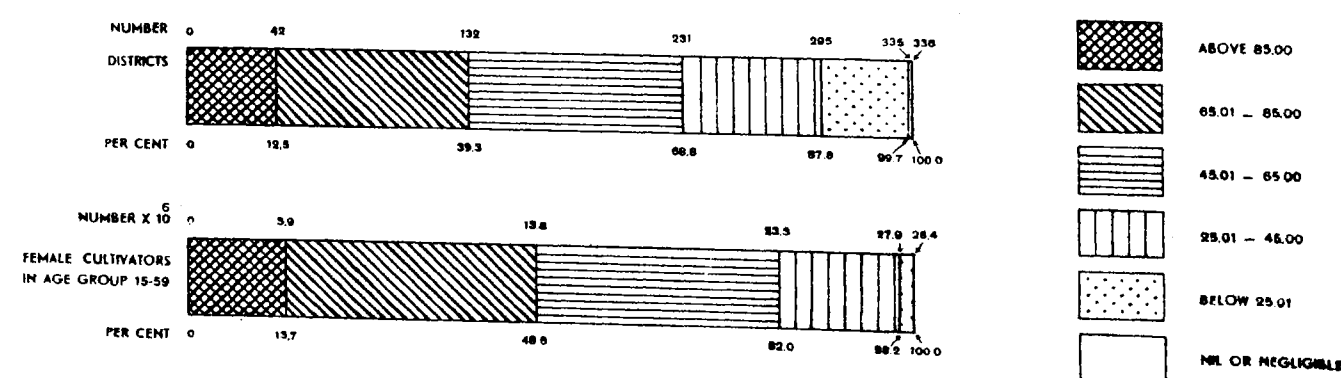
In Tamilnad highlands, coastal Mysore, eastern Kathiawar and Mahi river basin in Gujarat, Maharashtra plateau, Vindhyan scarplands in Madhya Pradesh, western part of Orissa plateau, eastern Uttar Pradesh, the Kamrup and Lakhimpur districts of Assam and the Union Territory of Manipur, the proportion of female cultivators (45.01—65.00%) is nearer to the National Average (55.83%).

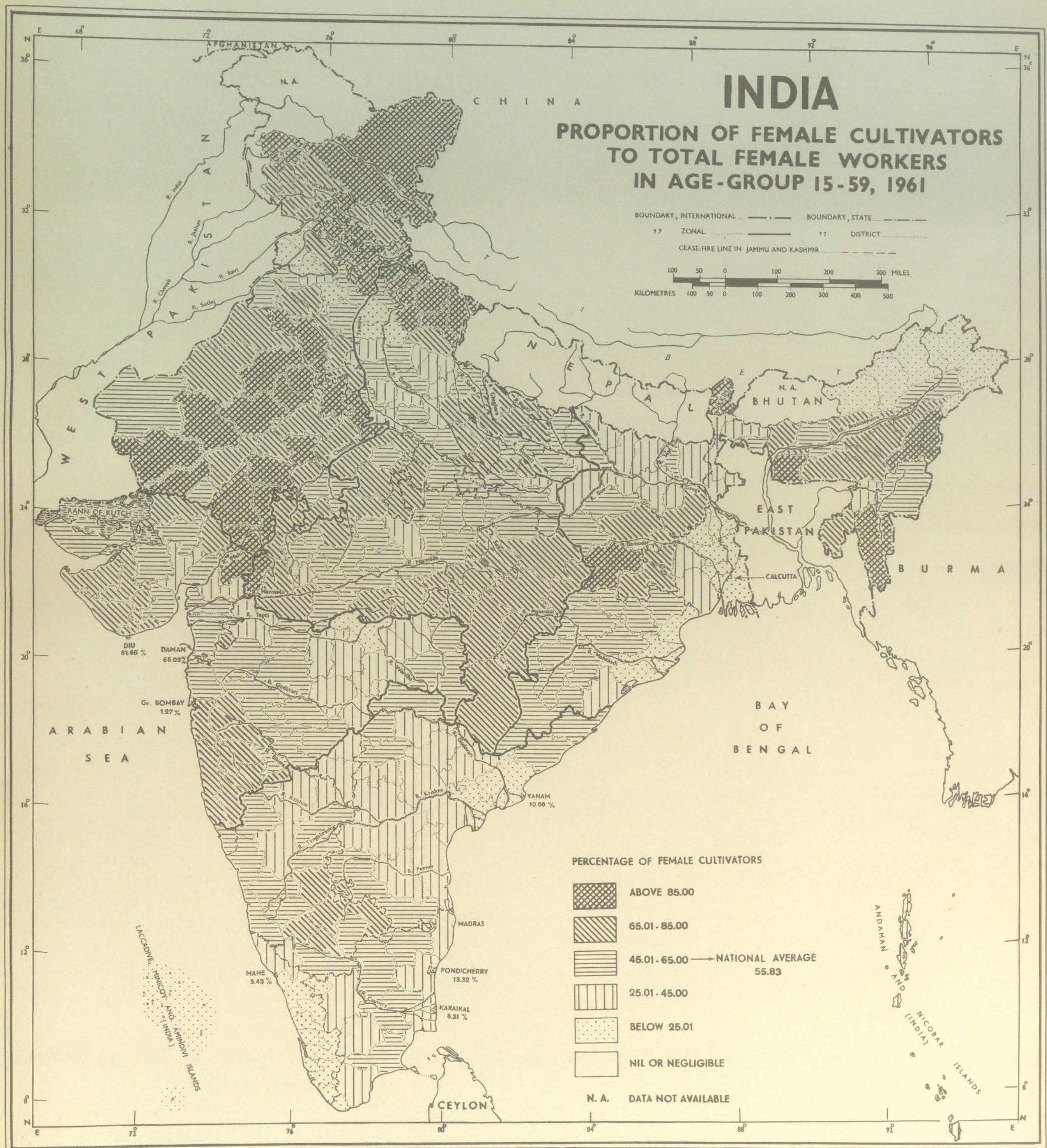
The proportion of female cultivators decreases further (between 25.01—45.00%) in the western half of Tamilnad plateau, Rayalaseema and Telangana areas of Andhra Pradesh and the eastern Maharashtra plateau. These regions mainly grow millets, cotton and groundnut. The productivity of land is low and most of the land is owned and supervised by the males only and women are employed mainly as labourers during harvesting and curing seasons. Hence the proportion of female cultivators becomes low. Similar conditions prevail in the rice-growing areas as well as in the plantation areas. The rice-growing areas with lower female participation in agricultural activities are—the Hooghly Delta, coastal plains of Orissa, Andhra Pradesh and Madras, north Bihar plains, Rohilkhand plains of Uttar Pradesh and the central part of Gujarat plain. The tea plantation areas with more female participation rate are the districts of Darjeeling and Jalpaiguri of West Bengal and the Cachar district of Assam.

The lowest proportion—below 25.01% of cultivators among the female workers is found in the fertile deltas and alluvial plains, such as, those coastal plain of Kerala, the delta districts of Godavari, Mahanadi and Ganga rivers, upper Ganga doab and north Punjab plains.

Sl. No.	State/Union Territory	Total female workers in age group 15—59, 1961	Total female cultivators in age group 15—59, 1961	Percentage of female cultivators to total female workers
1	2	3	4	5
INDIA		50,950,290	28,445,445	55.83
STATES				
1	Andhra Pradesh	6,219,693	2,443,665	39.29
2	Assam	1,498,465	978,713	65.31
3	Bihar	5,385,397	2,973,066	55.21
4	Gujarat	2,417,712	1,463,988	60.55
5	Jammu and Kashmir	369,657	309,281	83.67
6	Kerala	1,537,826	244,241	15.88
7	Madhya Pradesh	5,928,966	4,004,011	67.53
8	Madras	4,581,770	1,971,138	43.02
9	Maharashtra	6,311,312	3,487,850	55.26
10	Mysore	3,124,784	1,751,638	56.06
11	Orissa	2,001,405	1,009,742	50.45
12	Punjab	1,121,553	841,556	75.03
13	Rajasthan	2,828,299	2,375,193	83.98
14	Uttar Pradesh	5,350,017	3,464,657	64.76
15	West Bengal	1,382,105	495,578	35.86
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	4,085	1,096	26.83
2	Delhi	69,473	18,194	26.19
3	Himachal Pradesh	298,836	279,376	93.49
4	Laccadive, Minicoy and Amindivi Islands	5,729	2	0.03
5	Manipur	151,767	80,929	53.32
6	Tripura	103,654	73,431	70.84
7	Dadra and Nagar Haveli	13,607	10,872	79.90
8	Goa, Daman and Diu	89,637	47,097	52.54
9	Pondicherry	33,370	3,699	11.08
10	North-East Frontier Agency	1,285	53	4.12
11	Nagaland	83,506	81,811	97.97
12	SIKKIM	36,380	34,568	95.02

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





MAP 95

PERCENTAGE OF AGRICULTURAL LABOURERS TO TOTAL AGRICULTURAL WORKERS (CULTIVATORS AND AGRICULTURAL LABOURERS) IN AGE GROUP 15-59, 1961

Purpose: This map depicts the districtwise distribution of the proportion of agricultural labourers to total agricultural workers in the age group 15-59 in 1961.

Method: According to 1961 Census, an agricultural labourer is a person who works in another person's land for wages in money, kind or share of the produce. Agricultural workers include both cultivators and agricultural labourers.

Districtwise data as percentage share of agricultural labourers to total agricultural workers (cultivators and agricultural labourers) have been calculated and are depicted in this map by choropleth method. The data are grouped into five categories—two above (Above 37.00% and 26.01-37.00%); one nearer to (15.01-26.00%) and two below (4.01-15.00% & below 4.01%) the National Average (24.13%).

Salient Features: In 1961, agricultural labourers in the country constitute above 24% of total agricultural workers (cultivators and agricultural labourers). The map reveals that except the Eastern Ganga Plain, the whole of the northern plain including the desert area of the country shows the proportion of agricultural labourers less than the National Average (24.13%), while in the peninsular India except for a few pockets, the proportion is higher.

The map shows that in the highly developed agricultural districts, such as, the Godavari-Krishna delta of Andhra Pradesh and the coastal districts of Alleppey, Trichur and Palghat in Kerala, agricultural labourers are more than 50% of agricultural workers in the age group 15-59. The need for employing agricultural labourers is high here because of the predominance of rice cultivation. A similar high percentage of agricultural labourer is found in Wardha basin, one of the important cotton-growing areas in the country. Since cotton requires a large number of labourers, especially, at the time of plucking, the percentage of agricultural labourers has been high. All these areas come above 37.00%.

High proportion range (above 37.00%) covers 55 districts of the country. Andhra Pradesh and Maharashtra top the list with 12 districts each followed by Kerala (8), Bihar (7), West Bengal (5), Madras (3), Pondicherry (3), Mysore (2) and Gujarat (2).

Most of the districts in the second range (26.01-37.00%) fall either in rice-growing areas of West Bengal, Bihar, Kerala, Andhra Pradesh and Madras or in cotton belt of Maharashtra and Madhya Pradesh. Madhya Pradesh ranks first with 12 districts followed by Andhra Pradesh (8), Madras (6), Maharashtra (6), West Bengal (5) and Bihar (4) etc. The reason for this moderately high percentage (26.01-37.00%) in these areas is that labourers are needed in numbers at the time of harvesting of cotton and plantation of rice. The rice-growing areas of West Bengal and north Bihar plain with predominance of jute cultivation also show a similar proportion as rice and jute crops require large number of labourers at the time of sowing and harvesting.

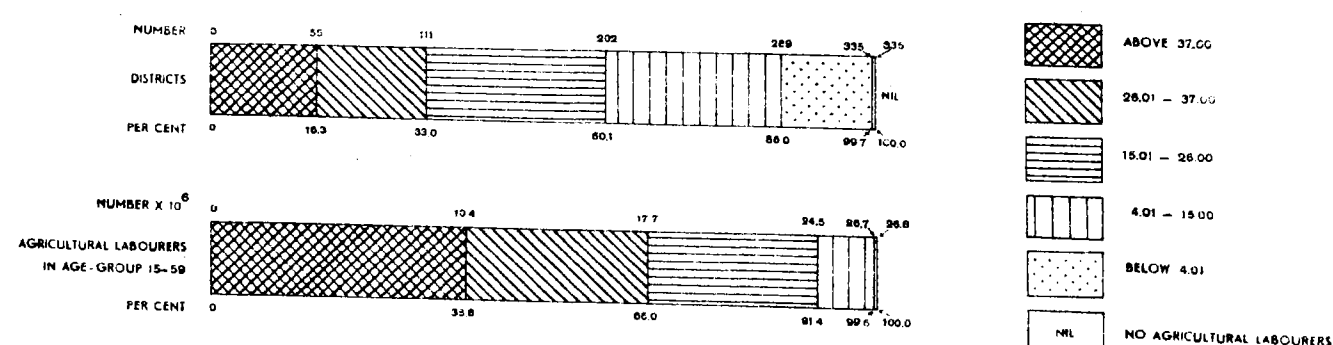
The third range (15.01-26.00%) covers the largest number of districts. These districts are mainly in the central, southern and western part of India. Madhya Pradesh, Uttar Pradesh, Orissa, Gujarat, Punjab and Mysore are important areas of this range with 21, 19, 11, 8, 8 and 6 districts respectively. Most of the districts are millets-growing areas, the reason for this low proportion is obvious as millets require lesser attention for its cultivation.

The last two ranges (4.01-15.00% and below 4.01%) mostly cover north-western and north-eastern India. Two pockets are found in southern India, in southern Maharashtra and southern Mysore. The range 4.01-15.00% includes 26 districts of Uttar Pradesh, 12 districts of Rajasthan, 8 districts of Punjab and Madhya Pradesh. The lowest range (below 4.01%) is found mostly in Rajasthan (12), Jammu and Kashmir (8), Uttar Pradesh (6), Assam (5) and Himachal Pradesh (5) etc. The low percentage of agricultural labourers to total agricultural workers in these areas is due to the limited cultivated land available on account of the sandy or rocky desert in Rajasthan, mountainous and rugged topography of Jammu and Kashmir and Assam. Agricultural workers are mainly owners in these areas and besides, labourers have good opportunity to work in other industries like forest in north-eastern and north-western India.

The map reveals that high percentages of agricultural labourers to total agricultural workers are found in the regions of cotton, groundnut and rice cultivated areas. On the contrary, low percentage is found in the area of millets producing regions or in the regions where cultivated lands are limited to a great extent.

Sl. No.	State/Union Territory	Agricultural workers	Agricultural labourers	Percentage of agricultural labourers to agricultural workers
1	2	3	4	5
	INDIA	111,224,715	26,833,015	24.13
	STATES			
1	Andhra Pradesh	10,733,414	4,414,643	41.13
2	Assam	3,002,747	158,843	5.29
3	Bihar	12,605,533	3,784,119	3.00
4	Gujarat	4,966,683	1,084,858	21.84
5	Jammu and Kashmir	1,005,793	16,074	1.60
6	Kerala	1,902,838	908,471	47.74
7	Madhya Pradesh	11,418,101	2,380,367	20.85
8	Madras	8,026,157	2,443,622	30.45
9	Maharashtra	11,334,549	3,826,460	33.78
10	Mysore	6,329,264	1,459,009	23.05
11	Orissa	4,818,397	1,095,748	22.74
12	Punjab	3,721,743	461,786	12.41
13	Rajasthan	6,215,624	328,198	5.28
14	Uttar Pradesh	18,114,328	2,748,961	15.18
15	West Bengal	5,493,605	1,597,844	29.09
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	5,977	320	5.35
2	Delhi	53,353	6,432	12.06
3	Himachal Pradesh	557,979	9,306	1.68
4	Laccadive, Minicoy and Amindivi Islands	134	...	...
5	Manipur	205,938	1,979	0.96
6	Tripura	274,712	28,950	10.54
7	Dadra and Nagar Haveli	25,538	4,191	16.41
8	Goa, Daman and Diu	129,609	33,971	26.21
9	Pondicherry	53,528	34,784	64.98
10	North-East Frontier Agency	153	10	6.54
11	Nagaland	154,664	2,130	1.38
12	SIKKIM	74,354	1,849	2.49

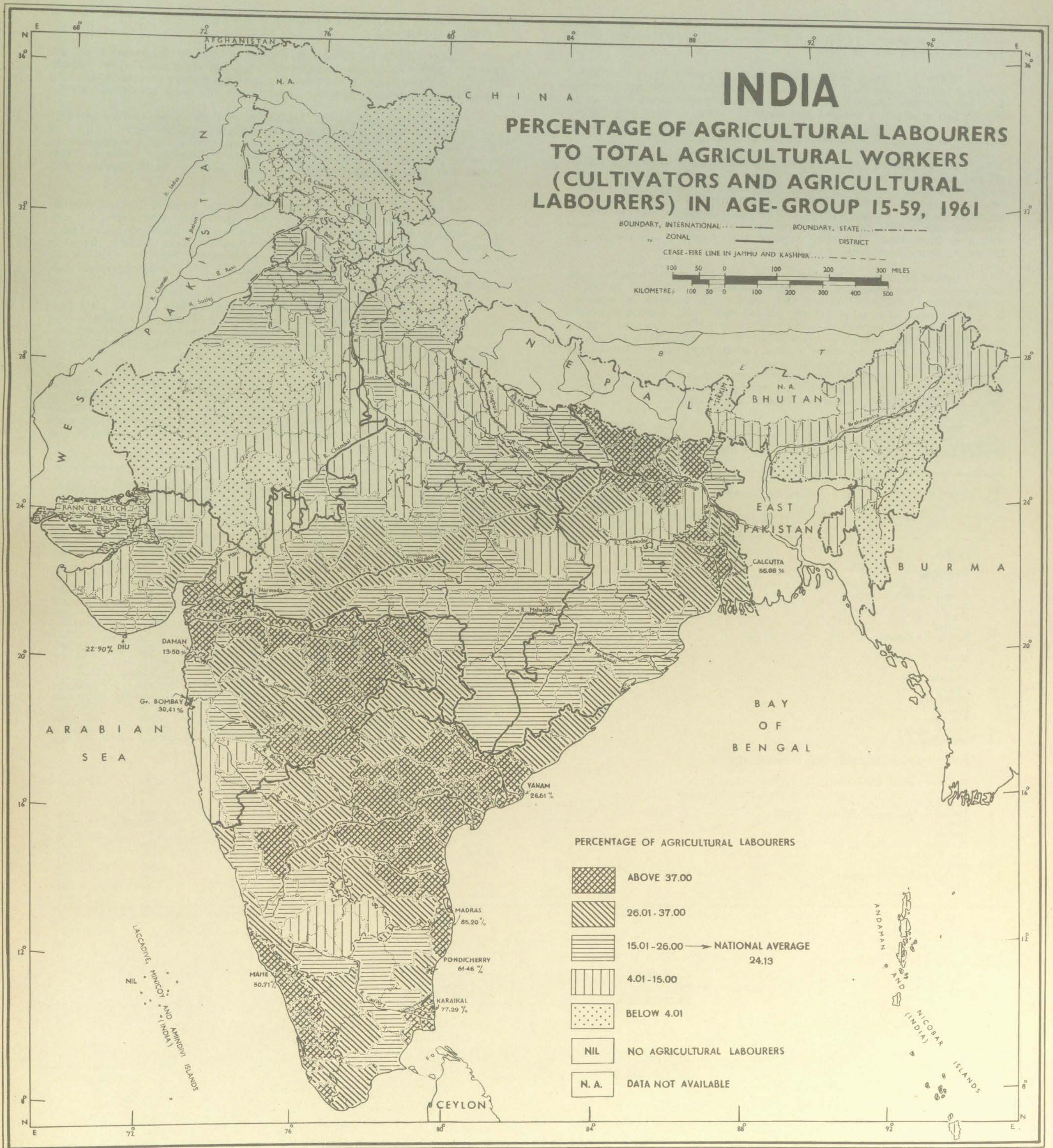
Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.



INDIA

PERCENTAGE OF AGRICULTURAL LABOURERS TO TOTAL AGRICULTURAL WORKERS (CULTIVATORS AND AGRICULTURAL LABOURERS) IN AGE-GROUP 15-59, 1961

BOUNDARY, INTERNATIONAL... BOUNDARY, STATE...
 ZONAL... DISTRICT...
 CEASE-FIRE LINE IN JAMMU AND KASHMIR...
 100 50 0 100 200 300 MILES
 KILOMETRE 100 50 0 100 200 300 400 500



PROPORTION OF NON-AGRICULTURAL WORKERS TO TOTAL WORKERS IN PRIMARY SECTOR, 1961

Purpose : This map depicts the proportion of non-agricultural workers to total workers engaged in Primary Activities for each of the States and Union Territories of the country in 1961.

Method : Primary Sector includes (i) As Cultivator (ii) As Agricultural Labourer and (iii) Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied activities. According to 1961 Census, non-agricultural activities in Primary Sector comprise livestock and hunting, fishing, forestry and logging and others including plantation, orchards etc. Plantation has been included under non-agriculture because it is an organised farming activity.

The percentage figures of non-agricultural workers to total workers in primary activities for all the States and Union Territories are shown in the map by choropleth method by grouping the data into five categories—two above; one nearer to and two below the National Average (3.2%) as shown in the legend of the map. Circles proportionate to total non-agricultural workers are drawn for each of the States/Union Territories and sectors are cut off proportionate to the number of workers engaged in (i) livestock and hunting; (ii) fishing; (iii) forestry and logging and (iv) others.

Salient Features : The map reveals that (i) the north-eastern and south-western parts of the country support the largest number of workers in non-agricultural activities. Most of these workers are engaged in organised farming activities, such as, plantation; (ii) the major part of peninsular India shows a moderate proportion of workers in Primary Sector engaged in non-agricultural activities—mainly livestock farming and hunting; (iii) the proportion of non-agricultural workers is low in Bihar, Orissa, Rajasthan and Jammu and Kashmir. Majority of their non-agricultural workers are engaged in livestock farming and hunting and (iv) the proportion of non-agricultural workers is lowest in the States of Punjab, Uttar Pradesh, Gujarat and Union Territories of Himachal Pradesh, Nagaland, Manipur and Sikkim.

Among all the States, Kerala ranks first (17.7%) and Assam second (12.7%) in percentage share of non-agricultural workers to total workers in Primary Sector. In both the States, majority of the workers in non-agricultural

activities (more than 70%) are engaged in plantation, viz., tea, coffee, rubber, coconut, cashewnut etc.

Among the Union Territories, Laccadive, Minicoy and Amindivi Islands (80.6%), North-East Frontier Agency (67.7%), Andaman and Nicobar Islands (51.0%) rank first, second and third respectively in non-agricultural activities though the absolute number of non-agricultural workers are not considerable.

West Bengal and Union Territories of Delhi, Goa, Daman and Diu and Dadra and Nagar Haveli fall under the next category (4.6–8.5%). In Union Territory of Delhi, out of 5,067 persons engaged in non-agricultural activities, 3,619 (71.4%) are engaged in livestock farming, while in West Bengal maximum number of non-agricultural workers are in plantation and orchard etc. (63.5%).

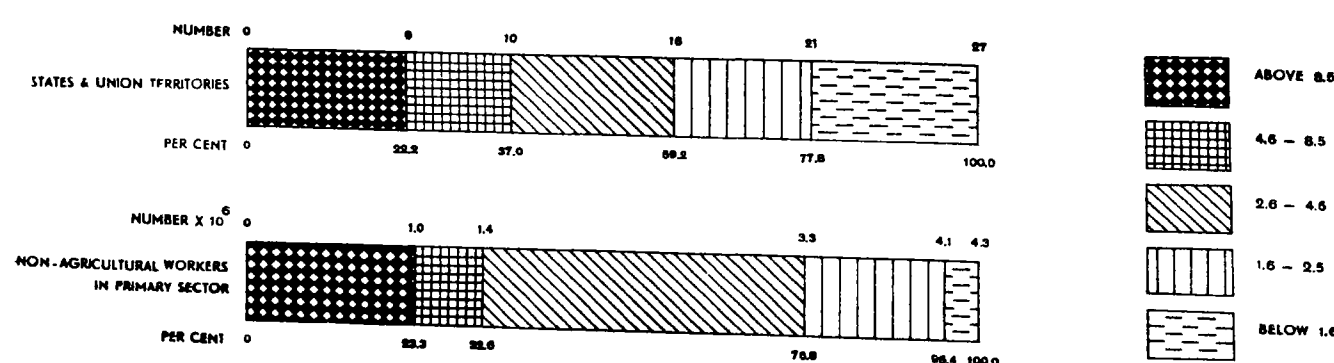
In Peninsular India, five contiguous States—Madras, Mysore, Andhra Pradesh, Maharashtra and Madhya Pradesh show their proportion of non-agricultural workers between (2.6–4.5%). In Madras and Mysore, plantation & orchard absorb 44–65% of non-agricultural workers while in Madhya Pradesh, Maharashtra and Andhra Pradesh livestock farming occupies the premier position offering employment between 55 to 65% of the total non-agricultural workers.

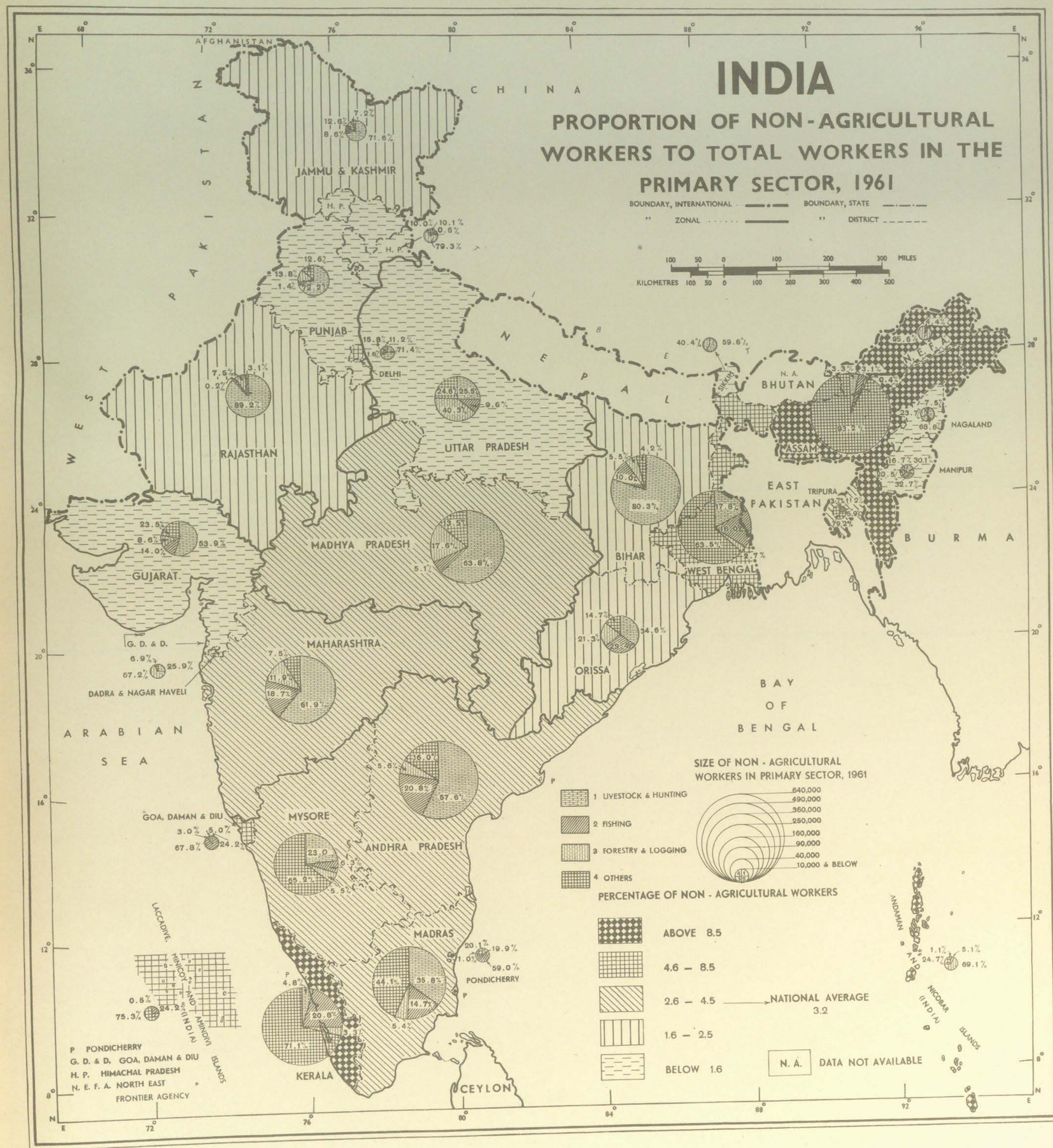
The proportion of non-agricultural workers is low (1.6–2.5%) in Bihar, Orissa, Rajasthan and Jammu and Kashmir. In all the three States except Orissa, livestock farming engages 70 to 90% of the total non-agricultural workers. In Orissa, livestock and hunting (34.6%) and fishing (29.4%) are the most important activities of the non-agricultural workers.

The percentage of non-agricultural workers is the lowest (below 1.6%) in the States of Uttar Pradesh, Punjab and Gujarat because of the intensive use of land for crop-farming. The Union Territories of Himachal Pradesh (1.3%), Manipur (0.3%) and Nagaland (0.1%) show a very low proportion of non-agricultural workers because of their hilly and rugged topography and subsistence level of economy.

Sl. No.	State/Union Territory	Total workers in primary sector	Non-agricultural workers in primary sector				Total	
			Livestock and hunting	Fishing	Forestry and logging	Others		
1	2	3	4	5	6	7	8	
INDIA								
	...	...	135,449,061	1,689,377	551,867	356,475	1,708,526	4,306,245
STATES								
1	Andhra Pradesh	...	13,294,014	271,028	98,096	26,406	75,171	470,701
2	Assam	...	4,022,163	17,068	15,876	1,991	476,312	511,247
3	Bihar	...	15,161,493	306,084	38,138	20,814	16,011	381,047
4	Gujarat	...	5,855,611	45,606	11,875	7,260	19,810	84,551
5	Jammu and Kashmir	...	1,197,025	18,038	2,180	3,184	1,803	25,205
6	Kerala	...	2,621,135	22,121	96,582	15,380	330,553	464,636
7	Madhya Pradesh	...	13,822,681	252,525	20,047	69,864	53,537	395,973
8	Madras	...	9,676,938	139,848	57,534	20,950	172,399	390,731
9	Maharashtra	...	13,602,218	219,727	66,509	42,285	26,620	355,141
10	Mysore	...	7,855,839	66,259	18,035	15,821	187,950	288,065
11	Orissa	...	5,761,586	36,302	30,900	22,327	15,534	105,063
12	Punjab	...	4,601,807	44,274	871	8,430	7,706	61,281
13	Rajasthan	...	7,589,865	125,848	316	10,609	4,382	141,155
14	Uttar Pradesh	...	21,849,005	40,584	15,286	64,278	39,303	159,451
15	West Bengal	...	6,648,676	74,349	66,740	11,216	265,884	418,189
UNION TERRITORIES AND OTHER AREAS								
1	Andaman and Nicobar Islands	...	13,876	79	359	4,889	1,746	7,073
2	Delhi	...	67,850	3,619	83	802	563	5,067
3	Himachal Pradesh	...	690,737	892	55	6,990	879	8,816
4	Laccadive, Minicoy and Amindivi Islands	...	718	3	140	—	436	579
5	Manipur	...	237,167	242	263	165	135	805
6	Tripura	...	325,986	451	1,360	720	9,662	12,193
7	Dadra and Nagar Haveli	...	32,733	514	—	1,334	138	1,986
8	Goa, Daman and Diu	...	159,566	2,186	6,118	266	448	9,018
9	Pondicherry	...	68,491	1,519	4,504	77	1,530	7,630
10	North-East Frontier Agency	...	505	15	—	327	—	342
11	Nagaland	...	196,170	128	—	44	14	186
12	SIKKIM	...	95,206	68	—	46	—	114

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





Population Employed in Mining and Quarrying,
Household Industries and Manufacturing

**PROPORTION OF INDUSTRIAL WORKERS IN MINING, QUARRYING,
HOUSEHOLD INDUSTRY AND MANUFACTURING TO
TOTAL WORKING POPULATION, 1961**

Purpose : This map depicts districtwise percentage of workers engaged in mining, quarrying, household industry and manufacturing to total working population in 1961.

Method : Districtwise percentage figures of workers engaged in mining and quarrying, household industry and manufacturing have been worked out and grouped into six categories—three above; one nearer to and two below the National Average (11.09%). The districts are shaded from high to low according to the ranges as shown in the Index of the map.

The districts where the proportion of workers engaged in Manufacturing to total workers is 5% or more are differentiated by a flat red colour.

Salient Features : This map brings out three salient features—(i) the major portion of the country shows less than 8% of the total workers engaged in the secondary activities; (ii) the number of districts showing a relatively high percentage of workers (20.01% and above) are 25 in number and (iii) the proportion of workers in these activities is considerably low in the hilly forested areas of the north and centre.

The districts where 20% or more of the workers are engaged in activities like mining and quarrying, household industry and manufacturing are found either in the industrial belts of the country or separate blocks which are scattered all over the country. For example, the districts of the Damodar Valley and the Calcutta Industrial Region, viz., Hooghly, Howrah, Calcutta and 24 Parganas are the two important industrial belts having nearly 20% or more of their total workers engaged in these activities, especially in manufacturing. On the other hand, the industrialised districts of Quilon, Greater Bombay, Ahmedabad, Ludhiana and the Union Territory of Delhi with a high percentage of workers in manufacturing (17.00%, 39.46%, 27.27%, 13.41% and 19.93% respectively) are the dispersed units. Some districts or Union Territories with a high proportion (20.01% and above) of workers in secondary activities do not always go with predominance of large scale manufacturing. For example, the Union Territory of Manipur and the districts of

Alleppey, Kanyakumari, Tirunelveli, Nagpur, Sagar, Jullundur, Jaisalmer and Meerut show more than 20% of their total workers engaged in secondary activities, but most of these workers are engaged in household industry.

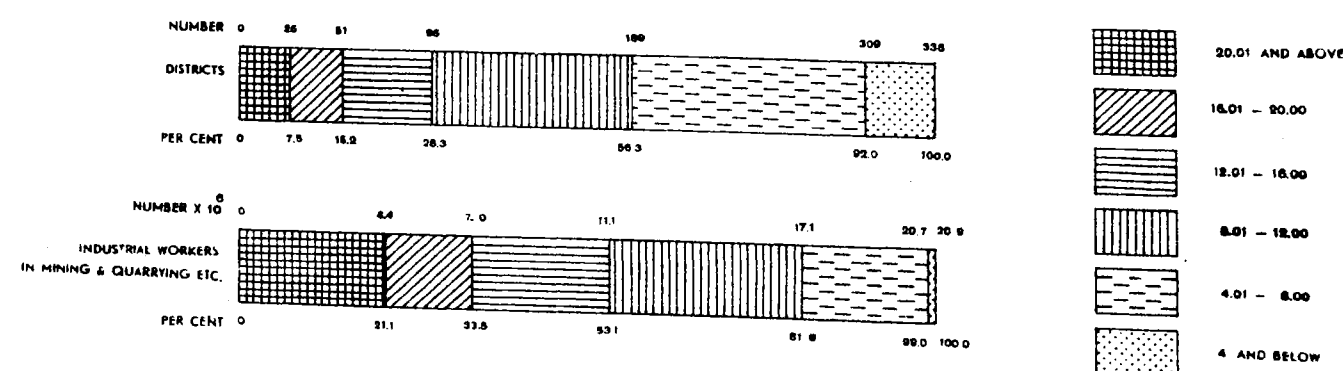
There are five distinct areas where the percentage of workers engaged in mining and quarrying, household industry and manufacturing range between 12.01 and 20.00%. They are—(i) the West coastal plain from Goa to Ernakulam; (ii) coastal plain of Andhra Pradesh including Telangana plateau; (iii) northern part of Saurashtra; (iv) Ganga-Yamuna *doab* and (v) northern Punjab Plains. Except the Kerala coast and a few districts in some other areas where manufacturing employs a large proportion of workers, all these areas show the predominance of aforesaid activities other than manufacturing.

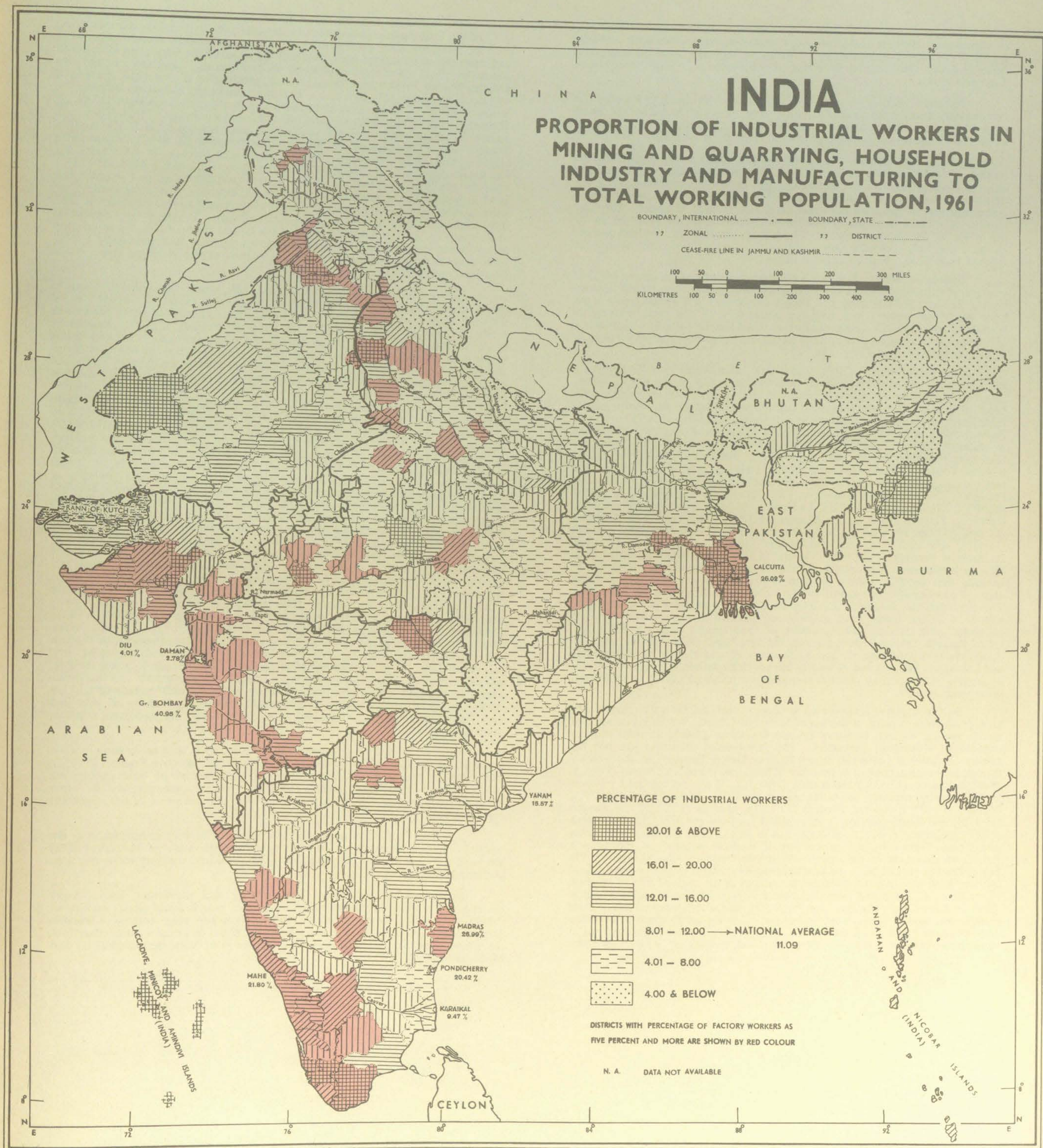
These non-agricultural activities seem to be of less importance in the economic activities of nearly half of the area of the country. Out of the total 336 districts including Sikkim, 214 districts exhibit between 4.01 and 12.00% of the workers engaged in these activities. These districts embrace the greater part of the peninsular plateau, forested hills in the centre and the north, the densely populated east Ganga plain and the desert plains of Rajasthan.

The lowest proportion of workers (4.00% & below) engaged in the above activities is visible in the hill districts in the north and tribal areas in the centre. The hill areas are—the Union Territories of North-East Frontier Agency, Nagaland; Garo Hills district of Assam; Darjeeling, Cooch Behar, Jalpaiguri districts of West Bengal; Pithoragarh, Almora, Tehri Garhwal and Uttar Kashi districts of Uttar Pradesh and Lahaul & Spiti district of Punjab where less than 4% of their workers are engaged in mining & quarrying, household industry and manufacturing. In the central part—the districts of Bastar, Seoni, Mandla and Jabua of Madhya Pradesh; the districts of Dungarpur and Banswara of Rajasthan which are still backward tribal areas show an insignificant proportion of workers (less than 4%) in the secondary activities. The less urbanized or entirely rural districts also show low percentage of workers (less than 4%) in secondary activities. They are—Bahraich district of Uttar Pradesh; West Dinajpur district of West Bengal; Dangs district of Gujarat and the Union Territory of Dadra & Nagar Haveli.

Sl. No.	State/Union Territory	Total workers	Total workers in mining, quarrying, household industry and manufacturing	Percentage of workers in mining, quarrying, household industry and manufacturing to total workers
1	2	3	4	5
	INDIA	188,675,500	20,924,735	11.09
	STATES			
1	Andhra Pradesh	18,663,042	2,381,223	12.76
2	Assam	5,137,411	390,840	7.61
3	Bihar	19,234,565	1,755,021	9.12
4	Gujarat	8,474,588	1,112,430	13.13
5	Jammu and Kashmir	1,523,621	129,355	8.49
6	Kerala	5,630,333	1,040,919	18.49
7	Madhya Pradesh	16,929,177	1,274,631	7.53
8	Madras	15,351,621	2,099,905	13.68
9	Maharashtra	18,948,481	2,190,993	11.56
10	Mysore	10,726,346	1,178,972	10.99
11	Orissa	7,661,529	644,223	8.41
12	Punjab	7,101,146	900,218	12.68
13	Rajasthan	9,583,840	800,798	8.36
14	Uttar Pradesh	28,850,141	2,615,211	9.06
15	West Bengal	11,580,195	1,966,185	16.98
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	31,194	6,083	19.50
2	Delhi	854,451	190,633	22.31
3	Himachal Pradesh	805,487	51,666	6.41
4	Laccadive, Minicoy and Amindivi Islands	12,449	10,683	85.81
5	Manipur	357,920	80,272	22.43
6	Tripura	437,229	35,992	8.23
7	Dadra and Nagar Haveli	34,794	702	2.01
8	Goa, Daman and Diu	258,138	40,861	15.83
9	Pondicherry	138,370	24,871	17.97
10	North-East Frontier Agency	26,164	493	1.88
11	Nagaland	219,310	1,045	0.48
12	SIKKIM	103,958	510	0.49

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





HOUSEHOLD INDUSTRIES CLASSIFIED BY SIZE OF EMPLOYMENT, 1961

Purpose : This map displays the Statewise distribution of eight types of household industries (I-Agro-based, II-Forest-based, III-Livestock and fish-based, IV-Textile, V-Mineral-based, VI-Engineering, VII-Chemical and VIII-Miscellaneous) according to their size of employment in each State/Union Territory in 1961.

Method : According to 1961 Census, household industry is defined as "an industry (not on the scale of a registered factory) conducted by the Head of the household himself and/or mainly members of the household at home or within the village in rural areas and only at home in urban areas".

In each State/Union Territory, vertical bars proportionate to the number of workers employed in eight types of household industries are arranged in order of their size of employment from high to low. The scale showing the absolute number of workers is given on the left hand side and the corresponding percentage scale is given on the right hand side of each diagram. The total number of workers employed in each type of household industry is given on the top of the bar for specific industry. The different shades inside the bars and the roman numerals indicated below them along the horizontal axis indicate the types of household industries as given in the Index of the map.

Salient Features : In 1961, a considerable proportion (about 84%) of workers in household industries in India are engaged in Agro-based, Forest-based, Livestock & Fish-based and Textile industries. Of which textile is the most developed industry and employs about 35% of the total workers in household industries. The map reveals that this All-India pattern of distribution of workers in the various categories of household industries is repeated in most of the States and Union Territories.

Household Industries, such as, the production of rice by milling, husking and processing of paddy by rice mill, parching of grains, production of pulses, oil pressing by *Kolhu* or small machines etc. are some of the important agro-based industries. This map brings out that the predominantly rice-growing areas have larger proportion of workers in agro-based industries than the non rice growing areas. These industries rank first in employment capacity in Andaman & Nicobar Islands (81.22%) and Madhya Pradesh (26.45%). The processes relating to polishing rice etc. are important in Andaman & Nicobar Islands whereas Tobacco Industry (bidi and cheroot making), production of flour and rice by milling etc. are some of the important household industries in Madhya Pradesh. The agro-based industries rank second in importance in Bihar (21.80%), West Bengal (21.13%), Laccadive, Minicoy and Amindivi Islands (18.97%), Tripura (15.51%) and Madras (14.00%). They rank third in Orissa (18.38%), Uttar Pradesh (17.36%), Kerala (13.34%) and Himachal Pradesh (11.47%) and rank fourth in Maharashtra (16.10%) and Mysore (8.85%). In Andhra Pradesh (5.38%) and Gujarat (4.51%), agro-based industries rank fifth in employment capacity among the Household Industries. It is worth-noticing that though Andhra Pradesh is one of the principal rice-growing area, it has a smaller proportion (5.38%) of workers in agro-based industries. This may, perhaps, be due to the development of this industry in the organized sector. All these States have majority of workers in agro-based industries connected with cleaning and processing of food grains, while in Bihar and Uttar Pradesh the workers engaged in the agro-based industries are more in those industries producing *gur* and *Khandsari* from sugarcane; in Kerala, Madras and Laccadive, Minicoy and Amindivi Islands the number of workers is more in *jaggery* industry from coconut and *palmyra* juice and also in fish currying, salting and canning.

In the country, forest-based industries, such as, the extraction of lac, gum, production of resin, collection of herbs, wild fruits, berries etc., sawing of wood, making wooden furniture etc., employ about 13.48% of total workers engaged in Household Industries. The forest-based industries are not the premier Household Industries in any State or Union Territory in the country though they rank second in importance in Nagaland (33.68%), Orissa (19.66%), Madhya Pradesh (17.93%) and Kerala (16.05%). They occupy third position in employment capacity in Maharashtra (18.55%), West Bengal (16.32%), Mysore (13.67%), Andhra Pradesh (13.13%), Madras (12.03%) and Punjab (11.97%) and fourth position in Bihar (14.71%), Delhi (13.57%), Uttar Pradesh (12.02%), Gujarat (9.61%) and Rajasthan (8.28%). For the rest of the States and Union Territories, the proportion of workers engaged in forest-based household industries is very small. It is worthnoticing that though in the North-Eastern part of India the area under forest is rather large, the forest-based industry is the second or third important industry in this region. The proportion of workers in forest-based industry to total workers in household industries is small in Assam and Manipur having 5.31% and 4.19% respectively of total workers engaged in forest-based industries. On the other hand Delhi which does not have forest of its own shows 13.57% of its total workers engaged in forest-based industries, such as, sawing of wood, making of wooden furniture etc.

The livestock and fish-based industries in the country employ about 23% of the total workers in household industries. The livestock-based industries, such as, sheep breeding, rearing of cattle, sheep and camels, production of wool and preparation of various milk products are some of the important Household Industries in the semi-arid region of western India. Similarly, in the dry Daccan Plateau Region also, sheep rearing, production of wool and rearing of cattle are the principal activities. The livestock-based industries employ the largest proportion of workers in household industries in Rajasthan (55.84%); Himachal Pradesh (53.68%); Gujarat (49.60%) and Punjab (37.72%). They rank second in employment strength in Jammu and Kashmir (38.72%); Andhra Pradesh (30.41%); Mysore (27.97%); Uttar Pradesh (21.89%); Maharashtra (18.64%) and Delhi (18.14%). They occupy third position in Bihar (19.38%) and fourth position in Orissa (15.07%); West Bengal (11.56%); Madras (7.83%) and Madhya Pradesh (16.44%). The livestock and fish-based industries are not at all important in the north-eastern part of the country, where less than 5% of their total workers in household industries are engaged in these industries. The fish-based industry in the household industrial sector is very poorly developed in the country. Even in Kerala which has the largest catch of fish, the proportion of workers in livestock and fish-based industries together does not exceed 1.66%. This may, perhaps, be due to the development of the industry more in the organised sector in Kerala.

The textile industry based on cotton, jute, wool, silk and other fibres is the most developed household industry in the country employing about 35% of the total workers engaged in household industries. Except in some States and Union Territories, such as, Himachal Pradesh; Punjab; Gujarat; Rajasthan; Madhya Pradesh; Dadra & Nagar Haveli and Andaman and Nicobar Islands, textile industry occupies the first position in employment capacity in all the States and Union Territories of the country. Even in the States and Union Territories of north-western India, textiles occupy second position and it ranks third in Madhya Pradesh (16.74%). Only in Andaman and Nicobar Islands (0.90%) and Dadra and Nagar Haveli (3.95%), they occupy fifth and sixth position respectively. An overwhelming proportion of workers in household industries is engaged in textile industries in North-East Frontier Agency (97.90%); Manipur (92.12%) and Assam (88.48%). A very high proportion of workers in household industries is engaged in textile industry in Laccadive, Minicoy and Amindivi Islands (69.52%), Kerala (56.54%), Madras (54.18%) and Pondicherry (53.30%). In Andhra Pradesh, 39.19% of the total number of workers in household industries are engaged in textile industry. But in absolute number (711,402), they form the bulk of the country's workers (4,173,983) engaged in textile industry in the household sector. It is also worthnoticing that Maharashtra and Gujarat, the principal cotton-growing states in the country have only 30.18% and 20.68% workers in the textile industry. This may mainly be due to the development of the textile industry more in the organised industrial sector. Most of the workers in the textile industry in Jammu and Kashmir (42.94%) are engaged in silk and woollen textiles. The Mineral-based industries occupy third or fourth position in importance among the various groups of household industries. The mineral-based industries have more importance in Bihar (11.44%); Madhya Pradesh (10.86%); Rajasthan (10.14%); Gujarat (9.79%); Orissa (9.64%) and Uttar Pradesh (9.36%). In Bihar state, mica splitting, mica grinding etc. are important. In Rajasthan, Uttar Pradesh and Orissa, marble carving and stone carving, mining and quarrying etc. are important. In Maharashtra, Madras and Uttar Pradesh brass making, manufacturing of aluminium and copper utensils are important. In the Union Territory of Delhi where the mineral-based industries occupy second position employing 18.60% of workers in household industries, making of iron and steel frame for buildings and making of metal furniture are important mineral-based industries.

Engineering industry in the household sector is still to develop in most of the States and Union Territories. In Delhi (8.61%), Madhya Pradesh (6.76%), Punjab (5.05%) and Maharashtra (4.40%), manufacture of light engineering goods including belts and screws, foundary industry, manufacture of other sundry hard wares, such as, G.I. pipes, net wire etc. are some of the important engineering industries.

Chemical industry in the household sector is very insignificant in the country. Union Territory of Delhi (3.04%) and the state of Madras (1.03%) are having industries like manufacturing of soap and washing soda, matches, perfume and *agarbatti* etc.

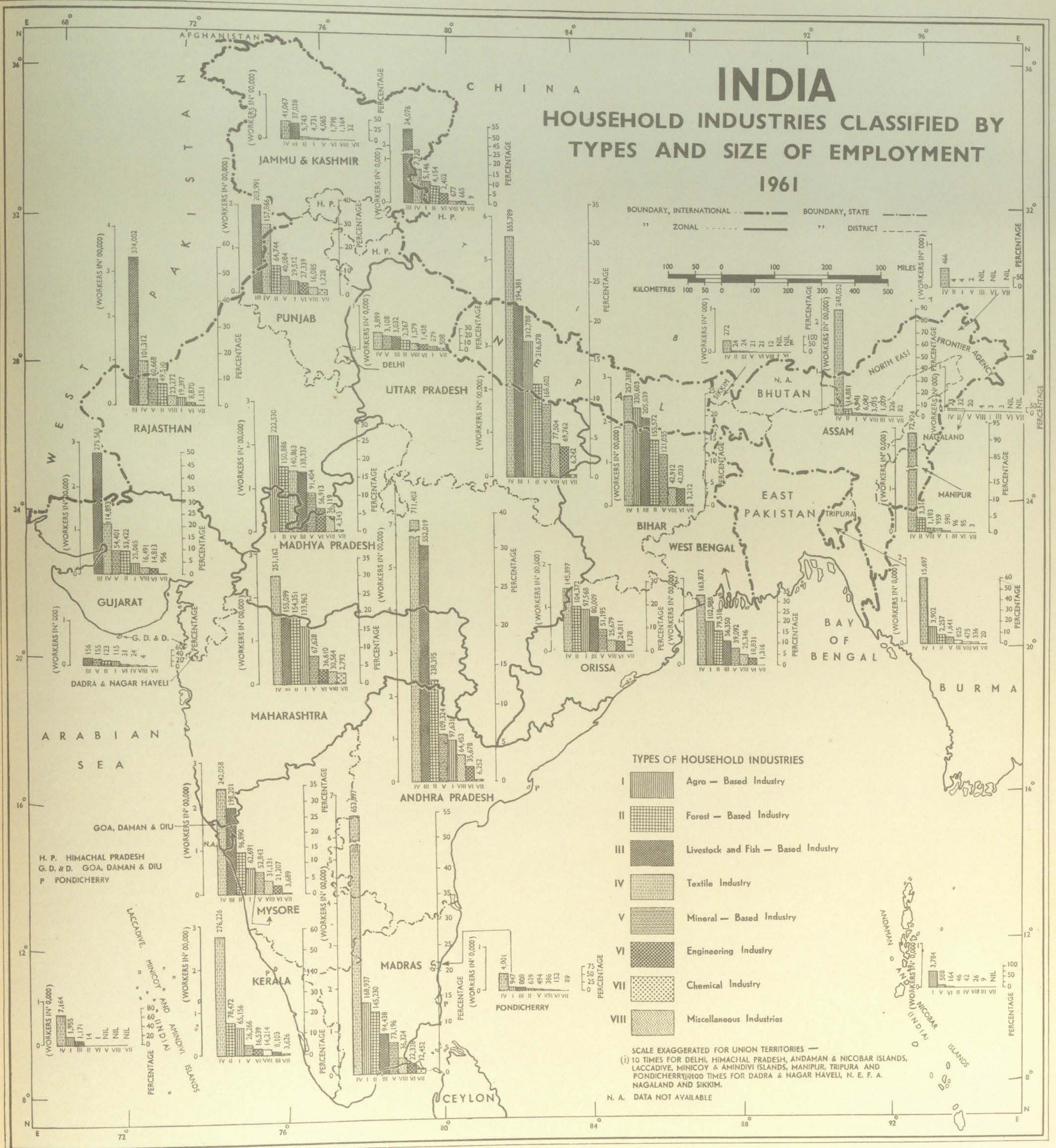
Miscellaneous industries, like printing and publishing books, book binding, stitching etc. repairing and servicing of watches and clock, making of rubber stamps etc. which generally develop in urban areas employ a sizeable proportion of workers in these household industries in urban centres: mainly in the Union Territory of Delhi (9.45%); the States of West Bengal (5.21%) and Maharashtra (3.67%).

Source : Census of India, 1961, Vol. I, India, Part IV-A (i)—Housing Report.

INDIA

HOUSEHOLD INDUSTRIES CLASSIFIED BY TYPES AND SIZE OF EMPLOYMENT

1961



FACTORIES CLASSIFIED BY TYPES AND SIZE OF EMPLOYMENT, 1961

Purpose: This map depicts the Statewise employment strength of workers in various types of factory industries of the country during 1961.

Method: All the industrial activities at factory level prevailing in the country are grouped into eight categories—(i) Agro-based; (ii) Forest-based; (iii) Livestock and fish-based; (iv) Textiles; (v) Mineral-based; (vi) Engineering; (vii) Chemical and (viii) Miscellaneous industries. For each category of industry, one vertical bar proportionate to its total employment is drawn. These bars are arranged according to their employment strength and shaded according to the category of industrial activities as shown in the legend of the map. The absolute scale is shown on the left hand side and a corresponding percentage scale is drawn on the right hand side of each of the bar diagrams.

Salient Features: This map reveals the following important features—(i) Maximum number of factory workers are in the States of West Bengal, Maharashtra and Madras which incidentally includes the leading industrial belts of the country, viz., Calcutta, Bombay and Madras respectively and (ii) Maximum number of workers are employed in agro-based industries (about 2.7 million) followed by textiles (mostly located in the Deccan Trap region) and mineral-based industries (mostly concentrated in north-eastern peninsula).

Agro-based industry occupies first position in employment strength in the States of Andhra Pradesh (227,282), Assam (483,833), Kerala (352,392), Madras (264,188), Mysore (193,107) and West Bengal (426,274) and the Union Territories of Andaman and Nicobar Islands (1,463), Laccadive, Minicoy and Amindivi Islands (112), Tripura (12,069) and Goa, Daman and Diu (5,455). The percentage of employment strength, of course, varies from State to State. For example, in Assam the figure is 85% while in Madras and West Bengal it is only 27%. The agro-based industry ranks second in importance in agrarian States of Bihar (106,204), Uttar Pradesh (182,502), Gujarat (51,838), Rajasthan (28,733), Orissa (20,511) and the Union Territories of Himachal Pradesh (1,301) and Pondicherry (3,652). This industry is important throughout the country in general as is evident from the map that except in Delhi and Nagaland, the employment strength of this industry is confined between the first three groups in all other States and Union Territories of the country.

Textile industry occupies the premier position in the States of Maharashtra, Gujarat, Uttar Pradesh, Punjab, Madhya Pradesh, Rajasthan, Jammu and Kashmir and the Union Territories of Delhi, Pondicherry, North-East Frontier Agency and Sikkim. Textile industry occupies second position in all the States of Southern Zone, West Bengal and Assam. Maharashtra which is a leading producer of textiles supports the largest number of workers (0.53

million) followed by West Bengal (0.39 million), Gujarat (0.29 million) and Madras (0.26 million). It is worthnoticing that Gujarat shows the highest proportion of workers (54%) in textile industry followed by Jammu and Kashmir (43%), Maharashtra (41%), Rajasthan (32%) and Madhya Pradesh (28%). Amongst all the Union Territories, N.E.F.A. (100%) and Pondicherry (55%) are important for their large proportion of workers in textile industry.

West Bengal (218,401) is the leading State in employment strength of mineral-based industry followed by Uttar Pradesh (141,511), Bihar (130,500) and Maharashtra (118,978) as compared with other States in the country. In Bihar and Orissa, mineral-based industry ranks first according to employment strength amongst the eight categories of factory-industries, the availability of which is largely due to the large amounts of mineral deposits found in these States.

In engineering industry, West Bengal (213,059) ranks first in employment strength followed by Maharashtra (170,200), Madras (123,749), Uttar Pradesh (95,867) and Punjab (70,777). But the position at State level of engineering industry among the industrial categories is second in Maharashtra and Punjab, third in Madras and fourth in West Bengal, Uttar Pradesh, Bihar, Mysore and Madhya Pradesh.

Forest-based industry is of little importance except in Himachal Pradesh (2,697), Manipur (428), Nagaland (266) and Dadra and Nagar Haveli (28). It ranks second in Jammu and Kashmir (5,692), Goa, Daman and Diu (3,796) and Laccadive, Minicoy and Amindivi Islands (93). This occupies third position in Kerala, Assam, Tripura, Pondicherry and Andaman and Nicobar Islands. In all the other States and Union Territories it ranks between fourth and seventh positions among the various industrial categories. In employment strength, Kerala (98,218) ranks first followed by West Bengal (85,910), Maharashtra (73,592), Madras (69,534), Uttar Pradesh (54,888), Mysore (44,790) and Andhra Pradesh (38,124).

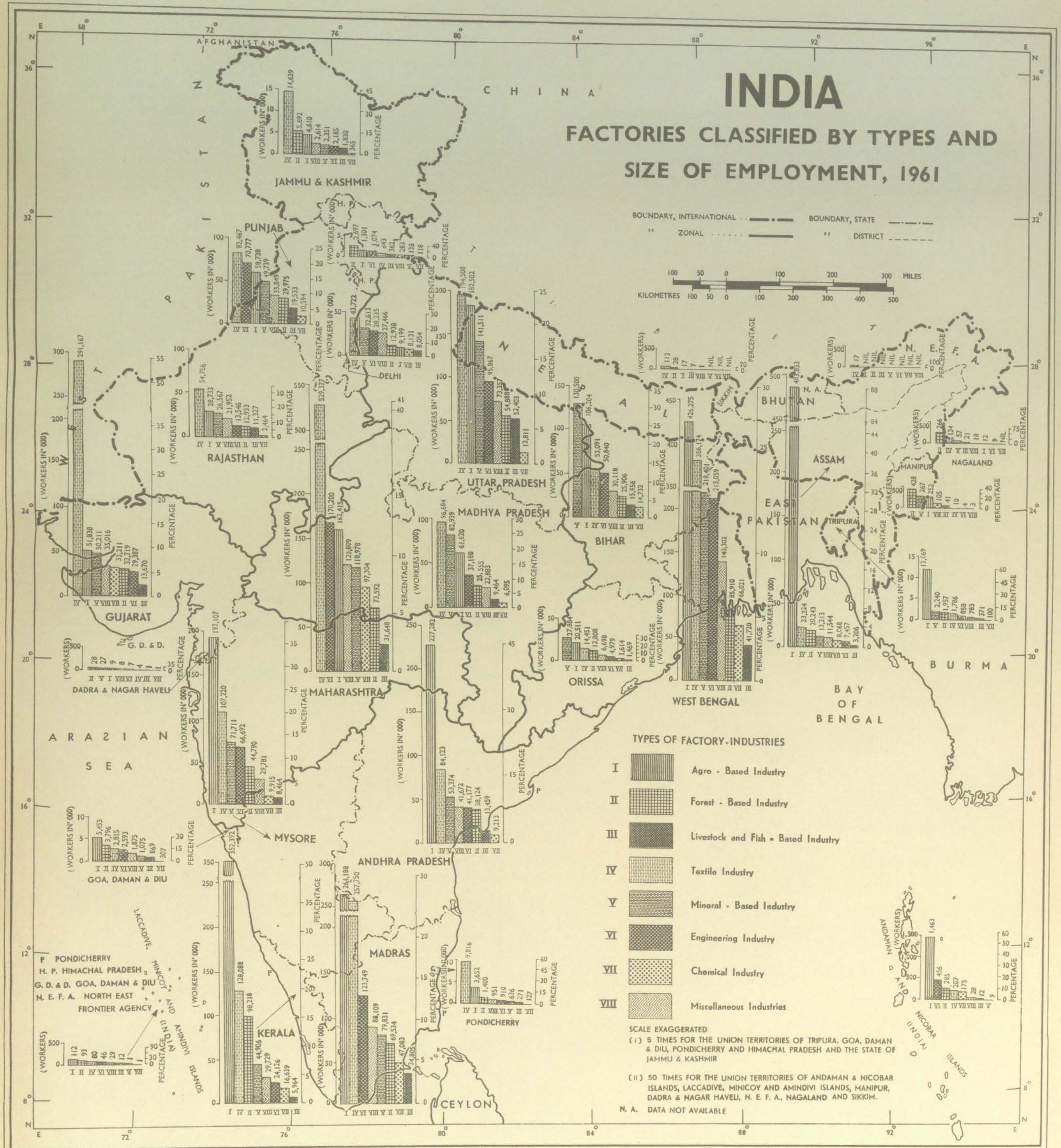
Livestock and fish-based industry occupies eighth position in employment strength amongst various factory-industries in the country. In all the States and Union Territories except Himachal Pradesh, Manipur, Laccadive, Minicoy and Amindivi Islands and Nagaland, this industry ranks either seventh or eighth. In Nagaland it ranks fourth while in Himachal Pradesh and Manipur it occupies fifth position.

Chemical industry is still to develop in this country. Its position amongst the factory-industries in States varies from sixth to eighth except in Gujarat where its position is fifth.

Source : Census of India, 1961, Vol. I, India, Part II-B (i)—General Economic Tables.

INDIA

FACTORIES CLASSIFIED BY TYPES AND SIZE OF EMPLOYMENT, 1961



MAP 100

DISTRIBUTION OF FACTORIES AND WORKSHOPS BY SIZE OF EMPLOYMENT, 1961

Purpose : This map shows the distribution of factories and workshops by size of employment in 1961. According to 1961 Census definition, any Census house where some kind of production, processing, repairing or servicing is undertaken or where goods or articles are made and sold is considered as a factory or workshop. Use of power is not universal in these factories. The factories are engaged in processing of goods from primary products whether agricultural or non-agricultural

Method : Factories and workshops are grouped into five categories—1—5; 6—19; 20—49; 50—99 and 100 and above according to their employment strength. Vertical bars are drawn proportionate to the number of factories and workshops of each category above the base line. An absolute scale on the left hand side and a corresponding percentage scale on the right hand side are given. While the size of the factories and workshops are given below the base line, their absolute figures are given above each bar.

Salient Features : This map brings out that in all, there are about 2.4 million factories and workshops in the country, of which about 90% are very small units employing 1—5 persons. Factories with employment strength 6—19 persons account for 5%, with 20—49 persons for 0.78%, with 50—99 persons for 0.23% and with 100 persons and above for 0.22%.

It is interesting to note that majority of the industrially underdeveloped States in the country support a large proportion of small factories which are predominant in the country. Madhya Pradesh ranks first supporting 18.51% of the small factories in the country followed by Uttar Pradesh (10.34%), Bihar (10.78%), Orissa (10.24%), Andhra Pradesh (6.66%), Rajasthan (1.95%), Jammu & Kashmir (1.88%) and Assam (0.22%). In all these States except Assam more than 90% of their factories are small units with employment strength 1—5 persons. The industrially advanced States, such as, Maharashtra, Madras, West Bengal, Mysore, Gujarat, Punjab and Kerala show more than 80% of their factories as small (1—5 persons).

The number of factories and workshops are very few in the Union Territories. All of them except North-East Frontier Agency, Andaman & Nicobar Islands and Delhi and Sikkim show more than 80% of their factories and workshops with employment strength 1—5 persons.

The small factories in underdeveloped States are engaged mainly in agro-processing industries, such as, flour mills, saw mills, cotton-ginning and cotton-pressing mills, stone quarrying etc. Cotton-ginning and cotton-pressing mills are more numerous in Madhya Pradesh, Uttar Pradesh, Bihar, Orissa and Andhra Pradesh. These small factories are engaged in agro-processing, viz., flour mills, oil mills and sugar mills. In Jammu & Kashmir State, industries based on forest products, Sericulture, wool etc. are important. In Bihar, Orissa and Andhra Pradesh the number of mineral-based industries are also large in number. Assam is the only State, industrially most underdeveloped, showing a relatively low proportion of factories and workshops (71.48%) of size 1—5 persons. Predominance of plantation estates in Assam is, perhaps, one of the reasons for the relatively higher proportion of factories of medium and large units. This state has only 11,023 factories and workshops which account for

0.46 % of country's total, of which about 20% are medium sized employing 6—49 persons and about 9% are large sized units employing more than 50 persons.

Among the States which are industrially developed, Maharashtra supports the largest number of factories and workshops of all sizes (320,460) followed by Madras (192,164), West Bengal (157,021), Mysore (98,349), Gujarat (80,133), Punjab (66,944) and Kerala (58,365). In all these States, more than 80% of total factories and workshops are small sized units employing 1—5 persons. In Maharashtra and Gujarat States, these small factories are mainly cotton-ginning and cotton-pressing mills. In Madras, Mysore and Kerala, the small factories are mostly agro-processing industries. These small factories are usually flour-mills, oil-mills, cotton-ginning and cotton-pressing mills etc., in Madras and Mysore States, while in Kerala they are mostly units engaged in coir-matting, cashewnut crushing, fish canning etc.

West Bengal, Uttar Pradesh, Maharashtra and Madras States support factories with employment strength 6—19 persons in larger number than other States. The proportion of factories of this size to total in these four States, ranges between 5 and 15%. It is worthy to note that Uttar Pradesh, though industrially not advanced, supports factories of this size almost at par with West Bengal. In Assam State, factories of this size (6—19 persons) in number are much less as compared to other States, but their proportion to the total number of factories in this State is highest (14.74%) in the country.

The large sized factories employing more than 50 persons are concentrated in large numbers in the States of Maharashtra (1,983), West Bengal (1,960) and Madras (1,099). The metropolitan cities with population over 100,000 support many such large factories.

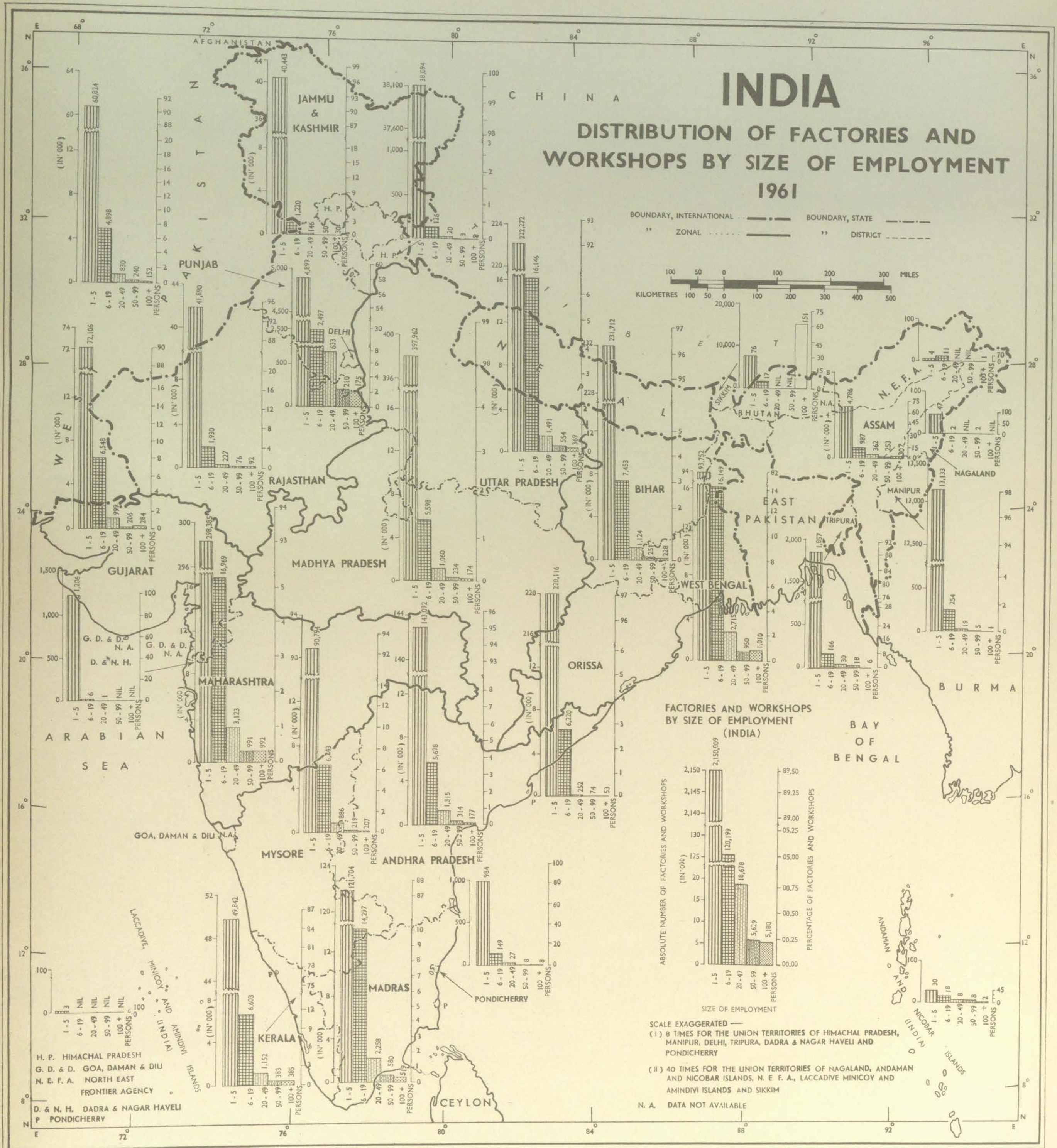
In West Bengal the large factories are mainly concentrated in the Calcutta Industrial Region and the Burdwan-Asansol Region. Besides, large sized tea estates in Darjeeling & Jalpaiguri districts of West Bengal account for a considerable proportion of large sized factories and workshops employing more than 100 persons in the State. Large sized factories in Maharashtra State are concentrated in the metropolitan city of Bombay, the industrial cities of Nagpur, Poona, Sholapur etc. In Madras State, the large sized factories and workshops are concentrated in the districts of Madras, Madurai, Coimbatore Ramanathapuram and North Arcot. The districts of Ernakulam, Trivandrum in Kerala State; Bangalore, Belgaum, South Kanara and Dharwar in Mysore State; Amritsar, Ambala, Ludhiana and Gurgaon in Punjab State and Ahmedabad and Surat in Gujarat also support large sized factories.

All the Union Territories support a ver small number of factories and workshops. The Union Territory of Delhi is the only area where the distribution and size of industries, though following the general pattern of the country is slightly different. The proportion of factories of different sizes in this territory shows a gradual decline, as the size of the factories increase. In this Union territory smaller units are usually engaged in repairing, servicing and small engineering goods units and the bigger units are engaged in textiles and chemical industries.

Source : Census of India, 1961, Vol. I, India, Part IV(B)—Housing and Establishment Tables.

INDIA

DISTRIBUTION OF FACTORIES AND WORKSHOPS BY SIZE OF EMPLOYMENT 1961



DISTRIBUTION OF FOOD-PROCESSING INDUSTRIES, 1961

Purpose : This map depicts the districtwise distribution pattern of food-processing industries in the country in 1961.

Method : All the food-processing industries in the country are grouped into ten categories—1) Rice and Flour mills; 2) Dal mills; 3) Oil mills; 4) Bakery and Confectionery; 5) Sugar and *Gur* factories; 6) Fruit preservation factories; 7) Hydrogenated oil industries; 8) Dairy industries; 9) Cashewnut industries and 10) Other food-processing industries. In each district where food-processing industries are found, circles proportionate to the total workers engaged in food-processing industries are inserted and sectors are cut according to the proportion of workers engaged in each category of food-processing industry. The total number of workers engaged in all the food-processing industries in the district is shown along with the circle.

Salient Features : The map reveals the following features—i) Except for a few scattered districts, the bulk of the workers engaged in food-processing industries are found in the Indo-Gangetic plain and in the coastal plains; ii) Most of the industries are raw material-oriented rather than market-oriented; iii) Rice mills are by far the largest employer of the workers in food-processing industries followed by sugar and *gur* industries and oil industry. Though the proportion of workers employed in each of the rice and flour mills is rather small, the total number of workers engaged in this particular food-processing industry is appreciably high in each district; iv) Only in a few districts, the total number of workers in food-processing industries exceeds 700 persons. *Rice and Flour mills* are almost exclusively found in the principal rice and wheat producing areas. A few factories are found in the hilly areas of Uttar Pradesh, Punjab plain and in the metropolises of Delhi, Bombay and Ahmedabad. In Madras, Andhra Pradesh and West Bengal, though the employment strength per mill is low, the total rice and flour mills (mostly rice) account for 60 to 80% of total workers engaged in food-processing industries. On the other hand in the rice-growing areas of the States of Bihar, Uttar Pradesh, Madhya Pradesh and Mysore, the total number of workers engaged in food-processing industries is low. The few rice and flour mills which are found in these States account for 75% of the total workers engaged in food-processing industries. *Dal Mills* are predominant in the districts of Hyderabad, Narsimhapur, Mirzapur, Howrah, Aligarh and Delhi. These mills are located either in the gram-growing areas or nearer to the cities and towns which are the major consuming centres.

Oil Mills are found all over the country but a large number of oil mills are located in the major oilseeds-growing areas which employ a good proportion of workers engaged in food-processing industries. Thus the oil mills in the groundnut-growing areas of Gujarat and south-western Andhra Pradesh (Rayalaseema) support 70—80% of the total workers engaged in food-processing industries. The *til* (sesamum) groundnut and cotton (cotton seed) growing areas of Maharashtra and Madhya Pradesh afford employment to 50—75% of total workers in food-processing industries in oil mills. In Mysore and Madras States, the groundnut-growing areas show only 25—50% of total workers in food-processing industries are employed in oil mills. In the remaining

States, the number of workers engaged in oil mills is negligible.

Bakery and Confectionery factories are mainly located in the districts where large urban centres with big markets are situated. Thus the larger cities, such as, Greater Bombay, Calcutta, Delhi, Hyderabad, Gwalior, Vellore, Patiala etc., having great demand for readymade bread etc., attract this particular type of food-processing industry.

Sugar and Gur factories are mostly located in the principal sugarcane-growing areas in Uttar Pradesh, Bihar, Western Maharashtra, Andhra Pradesh, Mysore and Madras. The bulk of sugar and *gur* industries are located in Uttar Pradesh and Bihar States especially in the Upper Ganga-Yamuna *doab* and Ghaghara-Gandak *doab*. The number of workers engaged in the sugar and *gur* factories in these two areas is large. In Muzaffarnagar district, out of 81 food-processing factories, 80 factories produce *gur* or sugar or their products. The State of Maharashtra also supports a number of sugar and *gur* factories. In the district Ahmadnagar 56 out of 63 food-processing factories produce sugar and *gur* and they employ about 99% of total workers in food-processing industries. In Andhra Pradesh, the number of sugar and *gur* factories is less than that in Maharashtra and all of them are concentrated in the coastal districts. In Madras and Mysore States sugar and *gur* industries employ an appreciable proportion of workers engaged in food-processing industries.

Fruit-Preservation factory which is also raw material-oriented is found in Kozhikode, Palghat, Trichur and Ernakulam districts of Kerala State; Srinagar and Jammu districts of Jammu and Kashmir State; Shillong district of Assam and Sikkim.

Hydrogenated Oil Industry is usually market-oriented. They are generally located in metropolises, such as, Greater Bombay, Madras, Calcutta and Delhi where the demand for hydrogenated oil is high. In some districts, this industry is raw material-oriented. Thus the groundnut-growing areas of Rayalaseema, north-western Maharashtra and Gujarat State supply the necessary raw material to the hydrogenated oil mills in Kurnool, Jalgaon and Ahmedabad districts respectively. The large production of copra from coconut in Kerala coast support the Trichur hydrogenated oil factory in Kerala.

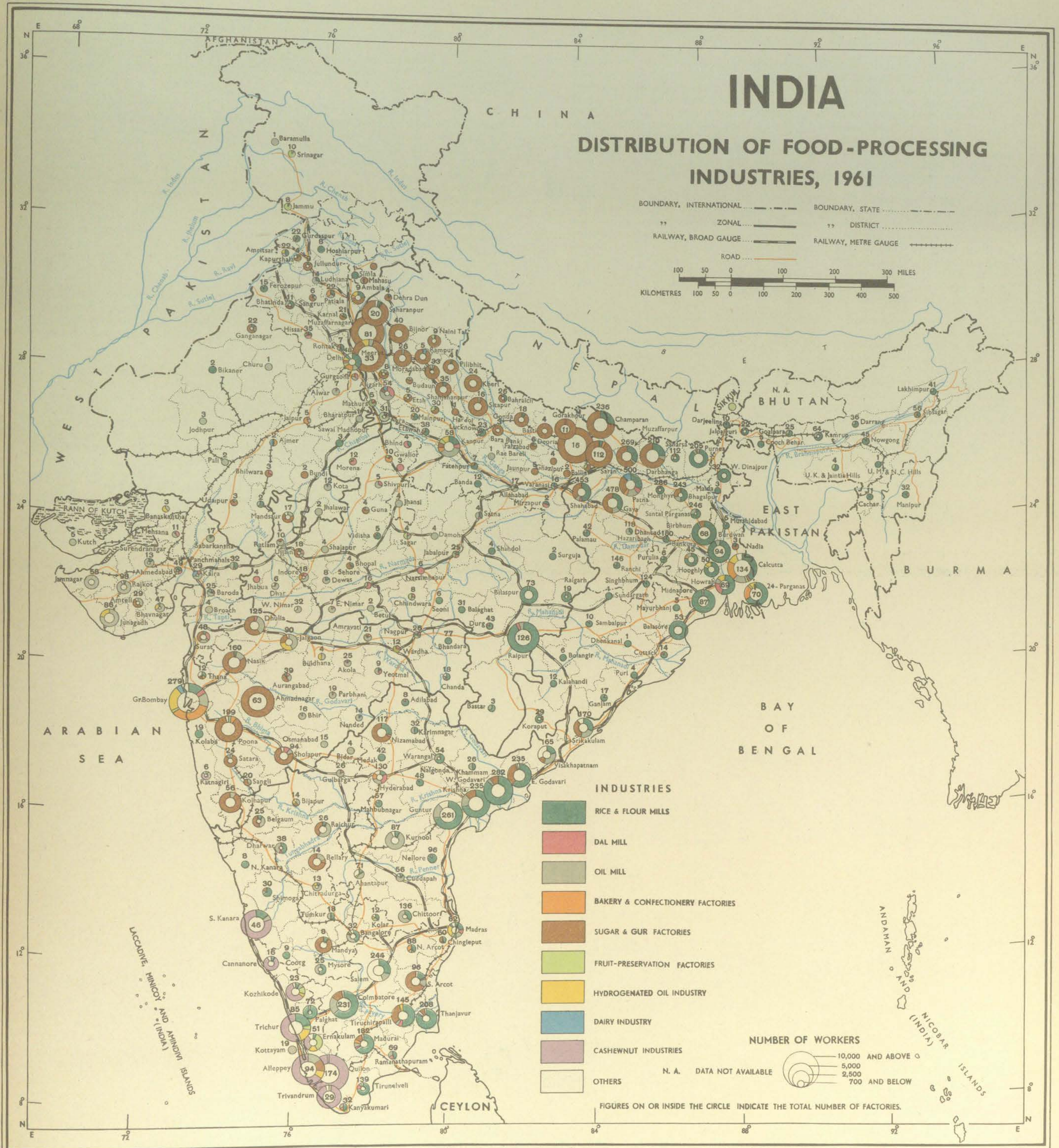
Dairy Industry is developed more in the drier parts of the country than the humid areas and are to be found in urban areas. The dairy industries are located nearer to the big market centres. Thus they are found in Greater Bombay, Kaira, Aligarh, Ajmer and Delhi.

Cashewnut Industry is one of the important food-processing industries in the country. All the cashewnut factories are found in the south-west coast. The Quilon district in Kerala has 153 cashewnut factories employing 99% of its total workers in food-processing industries. In South Kanara district of Mysore, 12 cashewnut factories employ 81.2% of its total workers engaged in food-processing industries in the district.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF FOOD-PROCESSING INDUSTRIES, 1961



DISTRIBUTION OF BEVERAGE AND TOBACCO INDUSTRIES, 1961

Purpose : The map depicts districtwise distribution pattern of the Beverage and Tobacco industries in the country in 1961.

Method : All the Beverage and Tobacco industries in the country are grouped into four categories viz., 1) Tea processing; 2) Coffee curing; 3) Tobacco curing and bidi manufacturing and 4) Other Beverages, such as, production of distilled spirits, liquors, aerated and mineral waters, ice and ice cream etc. In each of the district where beverage and tobacco industries are shown, circles proportionate to the total workers engaged in these two types of industries are drawn and the sectors within the circle depict the proportion of workers engaged in each category of beverage and tobacco based industry. The total number of workers engaged in all the beverage and tobacco based industries of the district is shown along the circle.

Salient Features : The map reveals the following features—1) The tobacco curing and bidi manufacturing industries are scattered all over the southern peninsula except in the Tamilnad area and their locations indicate that they are raw material-oriented; 2) The tea processing industry is concentrated in three specific areas—*a)* The Upper Brahmaputra Valley and north Bengal plain; *b)* Nilgiri and Palani Hills of Madras State and *c)* Kottayam district of Kerala State; 3) Coffee curing is important only in Mysore, Madras and Kerala States and 4) Cigar manufacturing industry is located in big cities and towns and it is market-oriented.

Tea processing industry which is principally found in the tea plantation areas of Assam, such as, in the Upper Brahmaputra Valley and in Cachar district; in Darjeeling, Jalpaiguri and Cooch Behar districts of West Bengal, in the tea growing districts of Kerala, such as, in Kottayam, Cannanore, Quilon, Trivandrum, Palghat, Kozhikode and Ernakulam and the tea growing districts of Mysore State, such as, Hassan and Chikmagalur. A few tea processing units are located in Dehra Dun district of Uttar Pradesh, Ranchi district of Bihar, Calcutta and 24-Parganas districts of West Bengal, Hyderabad district of Andhra Pradesh, Nagpur district of Maharashtra and Jamnagar district of Gujarat. The largest number of tea processing centres are in Lakhimpur, Sibsagar and Darrang districts of Assam, Jalpaiguri district of West Bengal and Kottayam district of Kerala. They support factories employing more than 20,000 workers accounting for 100% of the workers employed in beverage industries in these districts.

Coffee curing industry is confined to the coffee growing areas of Mysore, Madras and Kerala States. Mangalore in South Kanara district of Mysore

State is the major coffee curing centre in the country, though coffee is not grown there. It supports seven units employing 25,200 workers. In Mysore State, the districts of Bellary, Chikmagalur and Coorg; in Madras State, the districts of Coimbatore, Madurai and Salem and in Kerala State, the districts of Kozhikode and Cannanore have coffee curing plants but none of them employs more than 5,000 persons.

Tobacco curing and bidi manufacturing are important industries in Andhra Pradesh, Maharashtra, Madhya Pradesh, Orissa and Mysore. The Krishna and Godavari deltas have the largest number of tobacco curing units employing a large number of workers. In Guntur district alone, there are 302 tobacco curing units employing over 55,500 workers. Nizamabad and Karimnagar districts of Andhra Pradesh; Ahmadnagar, Nasik, Sholapur, Bhandara and Nagpur districts of Maharashtra; Singhbhum district of Bihar; Sambalpur district of Orissa; Raipur, Jabalpur, East Nimar and Sagar districts of Madhya Pradesh; Bangalore, South Kanara, Chitradurga, Tumkur and Mysore districts of Mysore State and Palghat and Cannanore districts of Kerala have considerable number of workers in tobacco curing and bidi manufacturing industries. Smaller units employing less than 700 persons are found in southern Bihar and southern districts of Rajasthan and in a few districts of Maharashtra and Madhya Pradesh.

Cigar and cigarette manufacturing is a market-oriented industry. They are located mainly in big cities and towns, such as, Greater Bombay, Calcutta, Howrah, Hyderabad, Saharanpur and Monghyr. Cigar manufacturing is more important in Madras State districts of Madurai, Tirunelveli and North Arcot.

Industries producing other beverages, such as, distilled spirits, liquor, aerated and mineral waters, ice and ice cream etc., are found in many of the districts in the Indo-Gangetic plain and former princely states like Udaipur, Baroda etc. But in all these districts, the number of workers employed in these beverage industries does not exceed 700. The district of Bangalore in Mysore State supports the largest number of workers (9,640) engaged in the industries producing beverages other than tea and coffee in the country. The metropolitan cities, such as, Greater Bombay, Calcutta, Ahmedabad and a few other smaller cities, such as, Belgaum, Warangal and Madurai are the important producers of these beverages employing more than 700 persons in these districts. Assam and Orissa States do not have any unit producing beverages other than tea.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF BEVERAGES AND TOBACCO INDUSTRIES, 1961



DISTRIBUTION OF TEXTILE INDUSTRIES, 1961

Purpose : The map depicts the districtwise distribution pattern of textile factories in the country in 1961.

Method : All the textile industries in the country are grouped into five categories—i) Cotton; ii) Silk; iii) Wool; iv) Jute and v) others. In each of the districts, a circle proportionate to the total workers engaged in the textile industries is drawn and sectors are cut off proportionate to the total workers engaged in different categories of textile industry. The number of workers engaged in textile industries is shown in absolute figures inside or outside the circle. Separate circles are drawn for jute textile industry and coir industry in Kerala (only).

Salient Features : Following are the salient features revealed by this map—i) Cotton manufacturing is by far the most important textile industry in the country and it is mostly concentrated in the western, eastern and southern parts of the Peninsular India; ii) Jute industry which ranks next to cotton in importance is concentrated in the Calcutta Industrial Region; iii) Wool, silk and other textile industries using other fibres, such as, coir, hemp etc. are less developed and are either raw material-based or market-based industries.

Among the various branches of textile industries, cotton industry ranks first in employment strength. It is widespread all over India but concentration is marked in Gujarat, Western Madhya Pradesh, Maharashtra, Mysore, West Bengal and Madras States. The Greater Bombay, Ahmedabad and Calcutta industrial belt; Coimbatore and Kanpur are the leading districts in cotton textile manufacturing in the country. More than 100,000 workers are absorbed by cotton textile industry of Greater Bombay and Ahmedabad districts, the district of Coimbatore employs about 54,000 workers and Kanpur district about 42,500 workers in the cotton textile industry. The other important cotton manufacturing centres are found in the western part of the peninsula. They are in Gujarat plains, western Madhya Pradesh, immediate hinterland of Bombay, Marathwada Plateau, North Karnataka Plateau and Tamilnad Plateau. In the northern plains, cotton textile industry is found in

the drier parts of Punjab plains, Delhi and Kanpur area of Uttar Pradesh. Cotton manufacturing centres of Calcutta Industrial Region are mostly market-oriented.

Woollen industry is predominant in the Kashmir Valley and in Rajasthan in the north-western part of the country. Other than this area of major concentration, a number of districts in the Upper Ganga Plains have developed woollen industry on the basis of local supplies of wool though not of good quality. In the peninsular India, Bangalore and Thana districts are important centres producing woollen textiles based upon imported high quality wool from within and outside the country.

Silk industry is either raw material-oriented or market-oriented in the country. In Bangalore, Mysore and Srinagar districts the silk industry is raw material-oriented. On the other hand, in the districts, such as, the Greater Bombay, Thana, Aurangabad, Surat, Adilabad, Hyderabad, Salem, North Arcot in the Peninsular India, Karnal and Amritsar districts in Punjab plains and the Union Territory of Delhi the silk industry is located near markets. In Srinagar, Bangalore, Surat and Amritsar districts about 40—60% of their total workers in textile industries are employed in silk industry.

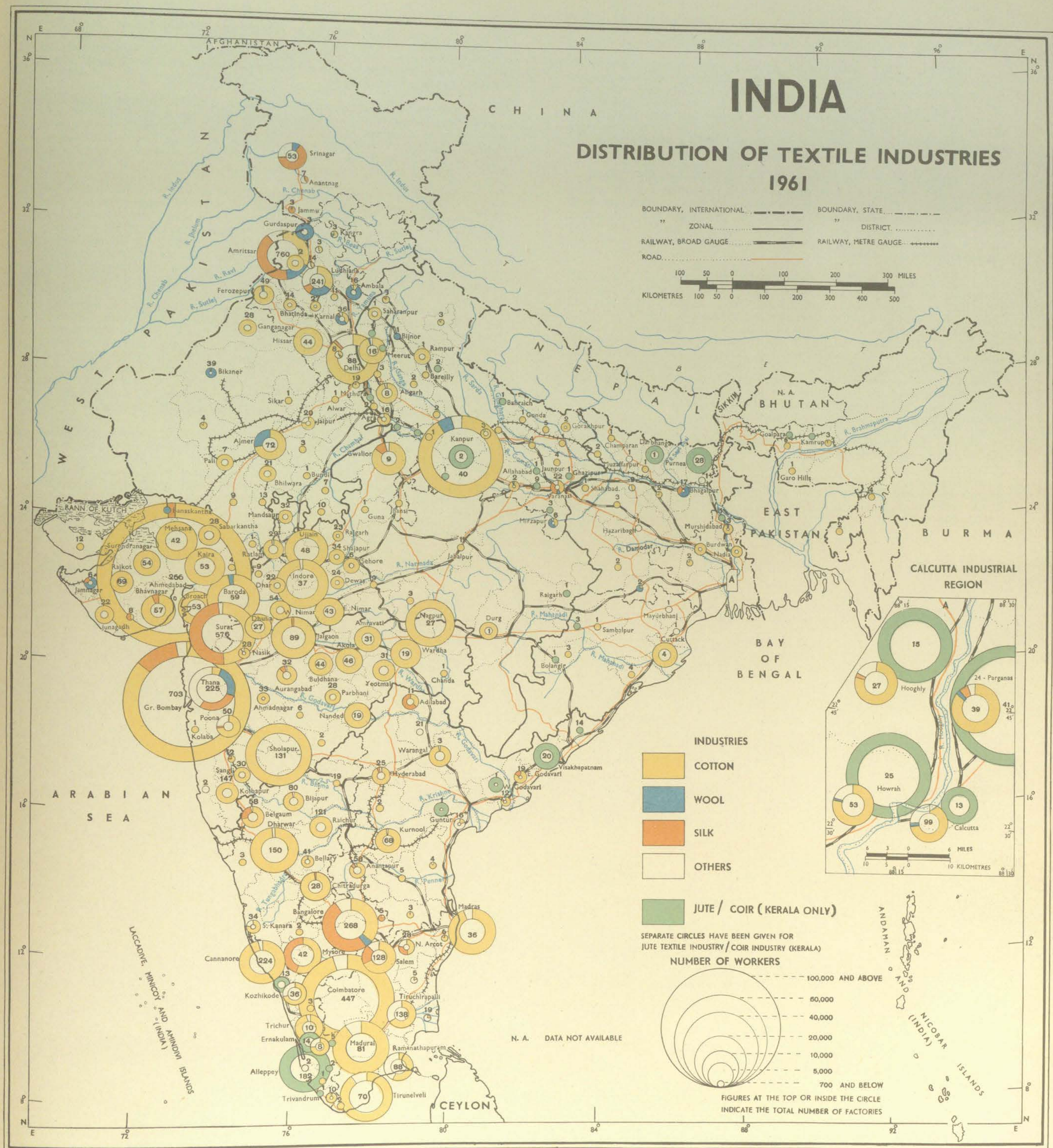
Jute industry in the country is mainly concentrated in the Calcutta Industrial Region. The four districts—24-Parganas, Calcutta, Hooghly and Howrah embracing the Calcutta Industrial Region support more than 200,000 workers in Jute industry. In all, about 94 jute mills are located in this industrial belt.

Coir manufacturing, weaving and spinning of other fibres (hemp, mesta etc.) are well developed in the southern parts of the country. Coir manufacturing is predominant textile industry in Kerala State especially in the district of Alleppey (182 units employing about 15,700 workers). The other centres of manufacturing textiles from other fibres are mainly located in Maharashtra, Mysore and Madras.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF TEXTILE INDUSTRIES 1961



DISTRIBUTION OF LEATHER & WOOD—BASED INDUSTRIES, 1961

Purpose : The map depicts the districtwise distribution pattern of leather-based and wood-based industries in the country in 1961.

Method : The leather-based industries are classified under (i) Tanneries; (ii) Shoe factories and (iii) Others, while wood-based industries are categorised as (i) saw mills; (ii) ply woods; (iii) paper and pulp products and (iv) other wood products. In each of the districts, two circles representing leather and wood-based industries proportionate to their total workers are drawn and sectors are cut off in each of them according to the workers engaged in different branches. Figures at the top or inside the circle indicate the number of workers engaged in the leather-based and wood-based industries.

Salient Features : The map brings out the following salient features—
i) Wood-based industries are more widespread than the leather-based industries in the country; ii) Among all the wood-based industries, saw mills are more numerous and scattered all over the country; iii) The leather-based industries are of more importance in the northern part than in the southern part of the country and iv) Most of the ply-wood mills are raw material-oriented while the paper and pulp producing factories are market-oriented.

The tannery industry is well developed in North Arcot (123 Units) and Chingleput (38 Units) districts of Madras State, Kanpur district (24 Units) of Uttar Pradesh and the metropolitan cities of Greater Bombay (15 Units) and Calcutta (66 Units). In each of these districts, the tannery industry employs more than 700 workers. Small tanneries with employment strength varying from 30 to 500 workers are found in four coastal districts—two Rayalaseema districts (Chittoor and Anantapur) and two Telangana districts (Hyderabad and Warangal) of Andhra Pradesh. Only 7 small sized tanneries in all are located in the districts of Wardha, Nagpur, Sholapur and Poona in Maharashtra State and one each in the four districts adjacent to Kanpur district of Uttar Pradesh. A few tanneries are also found in Mysore, Madhya Pradesh, Gujarat, Bihar, Punjab and Jammu and Kashmir States.

The shoe factories are mostly market-oriented. Large sized shoe factories are usually located in big cities, such as, Bombay, Madras, Calcutta, Kanpur and Agra. Small sized shoe factories are distributed in Cuttack and Baudh Khondmals districts of Orissa; East Godavari, Kurnool and Hyderabad districts of Andhra Pradesh; Rajkot district in Gujarat; Gurgaon district in Punjab and Jammu district in Jammu and Kashmir State and in the Union Territory of Delhi.

Other leather goods are produced in small units scattered over four districts in Gujarat State; districts of Jalgaon and Greater Bombay in Maharashtra; districts of Sagar and Gwalior in Madhya Pradesh; Calcutta and Howrah districts in West Bengal employing less than 700 workers in each district. There are small units in the districts of Bangalore, Chingleput, Madras, Shahabad, Meerut and Jullundur.

It is worthnoticing that the saw mills are scattered and usually small in size with the exception of Kerala State where these are more in number and have more employment strength. The Kozhikode district in Kerala, for example, supports 58 saw mills and employs 3,441 workers and is the biggest centre for saw mills in the country. The saw mills are fewer in number in Madras, Bihar, Uttar Pradesh and Punjab States.

The ply-wood factories are concentrated only in a few districts in the country. The industry is located in those districts where Veneer species of trees grow. They are—the Lakhimpur, Sibsagar and Cachar districts in Assam; Cooch Behar, Darjeeling, Calcutta and 24-Parganas districts in West Bengal; Bangalore and North Kanara districts in Mysore; Quilon, Kottayam, Palghat and Cannanore districts of Kerala and Sitapur district of Uttar Pradesh. Among these districts, Lakhimpur supports the largest number of ply-wood factories as tea industry provides a large market for the ply-wood boxes.

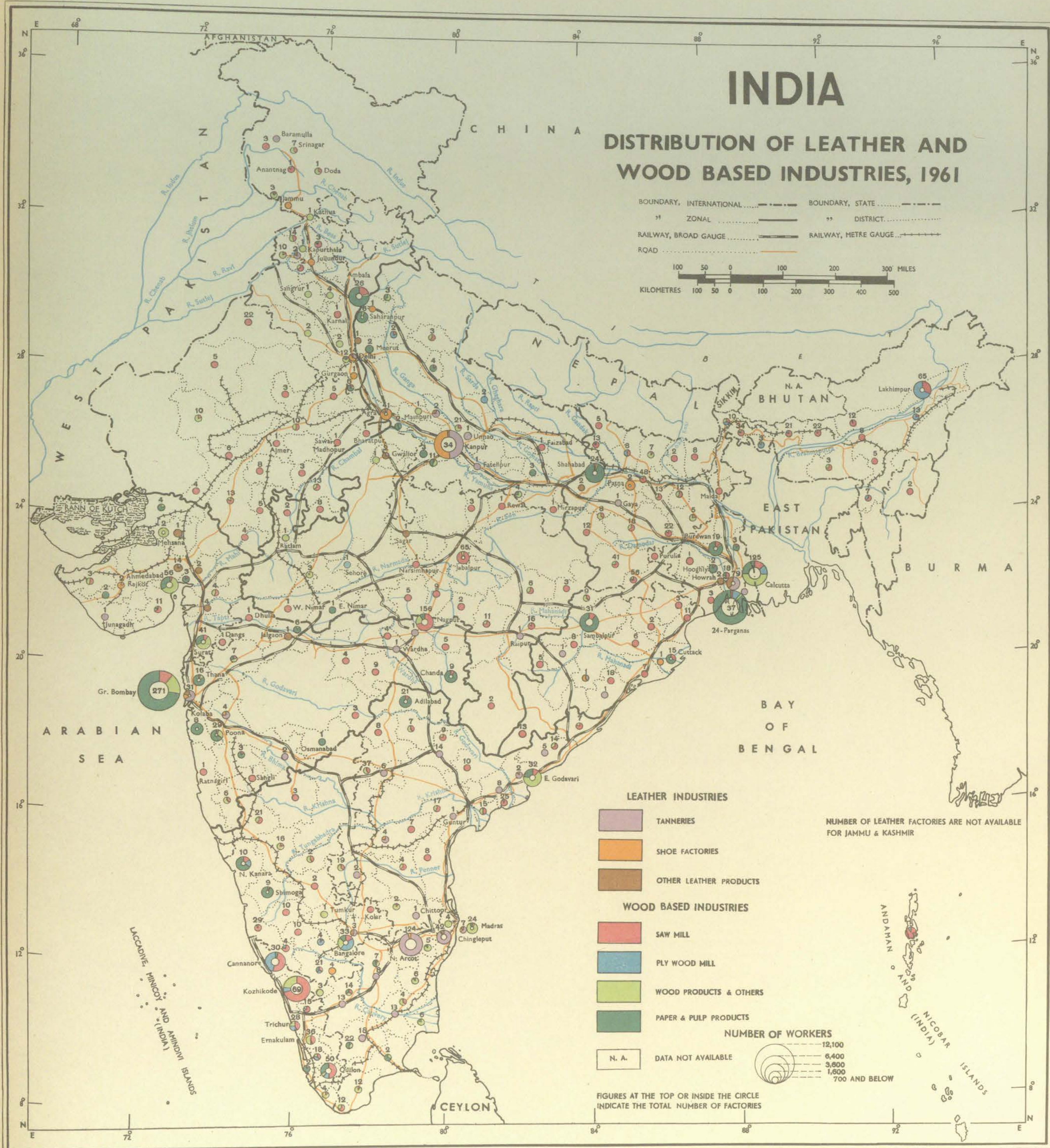
Paper and pulp industry with a vast employment capacity is concentrated in the metropolises, such as, Greater Bombay and Calcutta Industrial Region. The other centres are scattered in the forested areas of the country, such as, Adilabad district in Andhra Pradesh, Chanda district in Maharashtra, Sambalpur district in Orissa, Shahabad district in Bihar where the industry is raw material-oriented. On the other hand in the Greater Bombay, 24-Parganas, Calcutta, Burdwan, Ambala and Gurgaon districts—the paper and pulp factories are market-oriented. A few factories producing paper and pulp are located in the districts of East Godavari, East Nimar, Poona and North Kanara.

Among the wood-based industries, wood-products other than those produced by saw mills, ply-wood, paper and pulp are more in number in the south-western coast (Kerala coast) and in the Punjab plain than elsewhere in the country. Districts of Kozhikode and Quilon in Kerala, Greater Bombay in Maharashtra, Calcutta district in West Bengal and Ahmedabad district in Gujarat support a number of industrial units manufacturing other wood-products.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large scale industries in India.

INDIA

DISTRIBUTION OF LEATHER AND WOOD BASED INDUSTRIES, 1961



DISTRIBUTION OF METAL-BASED INDUSTRIES, 1961

Purpose : This map intends to show the distribution of metallurgical and metal-based industries in the country. The metallurgical industries in India embrace iron and steel manufacturing under ferrous metallurgy and copper and aluminium smelting under non-ferrous metallurgy.

Method : Circles proportionate to the total number of workers engaged in metal-based industries are inserted in those districts where such industries predominate and sectors are cut off in each circle proportionate to the number of workers in respective industries and they are differentiated by separate colours as shown in the legend. Figures on or inside the circles indicate the total number of factories engaged in metallurgical and metal-based industries.

Salient Features : This map shows that ferrous metallurgical industries and factories producing steel furniture and structural steel products are more in number than those manufacturing non-ferrous metal products. The former industries are concentrated mainly in the north-eastern part of the peninsular plateau embracing southern Bihar, northern Orissa and southern part of West Bengal. The reason for concentration is due to their location in close proximity to the raw materials needed for ferrous metallurgical industry, such as, iron-ore, coal (cooking and non-cooking), limestone, dolomite and manganese etc. Moreover their location is not far away from the Calcutta Industrial Region which is not only an important market for the finished products but also serves as an outlet for these products by sea.

Within this belt of ferrous metallurgical industry there are also some non-ferrous metallurgical industries, such as, copper and aluminium factories. Copper smelting factory is situated in Singhbhum district of Bihar.

Another important area of metal-based industry is Bombay region. In this area though there is no major ferrous-metallurgical industry, still there are factories engaged in recasting pig iron and steel into steel sheets and bars. The most dominating industry in this part of the country is that of structural steel products and steel furniture. Besides there are some industries

based on non-ferrous metals, such as, aluminium and aluminium products. The availability of bauxite and cheap hydro-electric power in the locality has encouraged the establishment of factories producing aluminium and aluminium products in this region. The industry here is mostly market-oriented.

And yet another important centre of ferrous metallurgical industry is Shimoga district in Malnad area of Mysore State. This part of the country has iron-ore, manganese and limestone reserves in close proximity. Not very far from Shimoga, Bangalore is another important centre engaged in recasting of pig iron and steel and manufacturing of iron and steel furniture and structural steel products. The district of Hyderabad supports a number of factories engaged in manufacturing of iron and steel furniture and steel products.

Another important region of metal-based industry is the Punjab Plain. The biggest concentration of metal-based industry is in the Union Territory of Delhi where the production of structural steel products account for more than 2/3 of the metal-based industries.

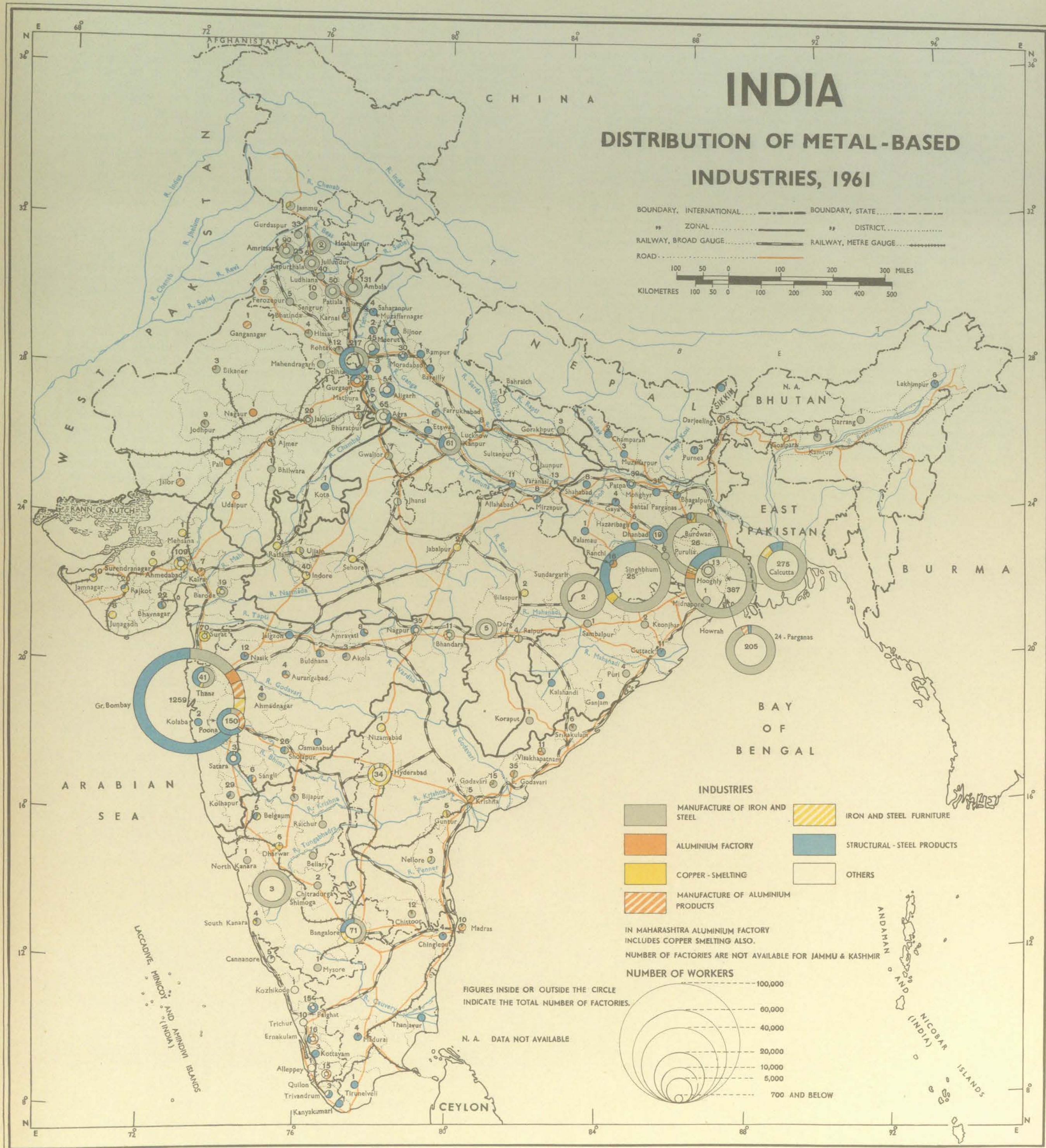
Rajasthan State, inspite of its potential reserves of non-ferrous mineral, such as, copper, lead & zinc is deficient in metal-based industries. This is mainly due to lack of power resources. Besides, the resources are not yet adequately exploited. It may be interesting to note that an extensive area embracing Telangana Plateau, part of Andhra Pradesh, southern Orissa hills and plateaus and Bastar district of Madhya Pradesh, though contain potential reserves of iron-ore, coal, limestone, manganese, bauxite etc., hardly have any metal-based industry of any significance. Much of this area is still inaccessible and the minerals are hardly exploited.

The interior part of the peninsular plateau shows a poor development in metal-based industry. Only a few aluminium smelting centres are found in the Ghat area of Kerala State because of cheaper hydel-power facilities. The Malwa plateau, Bundelkhand plateau, Vindhyan scarplands in the north support a few centres of metal-based industry. The hill areas in the north-east are devoid of any metal-based industry.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF METAL-BASED INDUSTRIES, 1961



DISTRIBUTION OF NON-METALLIC MINERAL BASED INDUSTRIES, 1961

Purpose : The map depicts the distribution of non-metallic mineral based industries in various districts of the country in 1961.

Method : The non-metallic mineral based industries in the country are classified into four categories—i) cement; ii) bricks, tiles and other structural clay products; iii) pottery, china clay and porcelainware and iv) glass and glasswares. Circles proportionate to the total workers in these four categories of non-metallic industries are drawn in each of the districts. Sectors proportionate to the workers engaged in each of the non-metallic industries are cut off and shaded by different colours as shown in the legend. Figures on or inside the circles indicate the total number of non-metallic mineral based factories in the districts.

Salient Features : The size of workers in non-metallic industries is much smaller than that of metal-based and metallurgical industries. They are concentrated in the north-eastern part of the peninsular plateau; Hooghly Industrial Region and in the Bombay industrial belt. The next important area of non-metallic industry is the south-western coast of the peninsula stretching from South Kanara district to Quilon district. The other area of concentration is in the Upper Ganga Plain.

In the north-eastern part of the peninsula, predominant non-metallic industries are cement, bricks and tiles. In the Hooghly region, however, pottery, glass and glassware are more important. In the first region, the district of Dhanbad in Bihar State leads in the manufacture of cement, bricks and tiles. A number of cement factories are also located in the districts of Shahabad, Ranchi and Palamau in Bihar State.

The district of Greater Bombay is the leading centre of non-metallic mineral based industry in Maharashtra State. Glass and glassware, bricks, tiles and other structural clay products are the principal industries of Greater Bombay. In addition, the district also supports a few cement factories and pottery manufacturing units. The production of bricks and tiles predominate in the region which forms a belt from Thana to Ahmedabad. Cement industry is more widespread in the hinterland of Bombay. There are as many as 12 districts in Maharashtra where cement industry is located.

In Gujarat, Jamnagar district shows the predominance of cement industry while in Surendranagar district the pottery industry is dominant. In

Madhya Pradesh, the number of non-metallic industries are few. Jabalpur is the only significant area with predominance of cement and pottery industries.

The Upper Ganga plain is conspicuous for its glass and glassware factories which are distributed in ten districts almost in the form of a belt. The biggest concentration of glassware factories (150) is in Agra district. The reason for this heavy concentration of glass factories in this part is the availability of glass sands in the nearby locality and the demand for glass bangles due to social tradition.

The State of Punjab is deficient in non-metallic industries. There are only two districts manufacturing cement, 3 districts manufacturing pottery and 7 districts manufacturing bricks and tiles. In Rajasthan State, there are only two cement factories which are located in Sawai Madhopur and Bundi districts. One glass and glassware factory is located at Bharatpur and one factory manufacturing bricks, tiles and other structural clay products is located at Jaipur.

In the south-western coast of the peninsula, bricks, tiles and other structural clay products form the leading non-metallic industries. A number of bricks and tiles factories are located in the west coast from south Kanara to Quilon districts. The largest concentration seems to be in the three districts, viz., South Kanara, Kozhikode and Trichur. Except for a few pottery industries in Quilon and Kozhikode districts, there is hardly any other non-metallic industry in this part of the country.

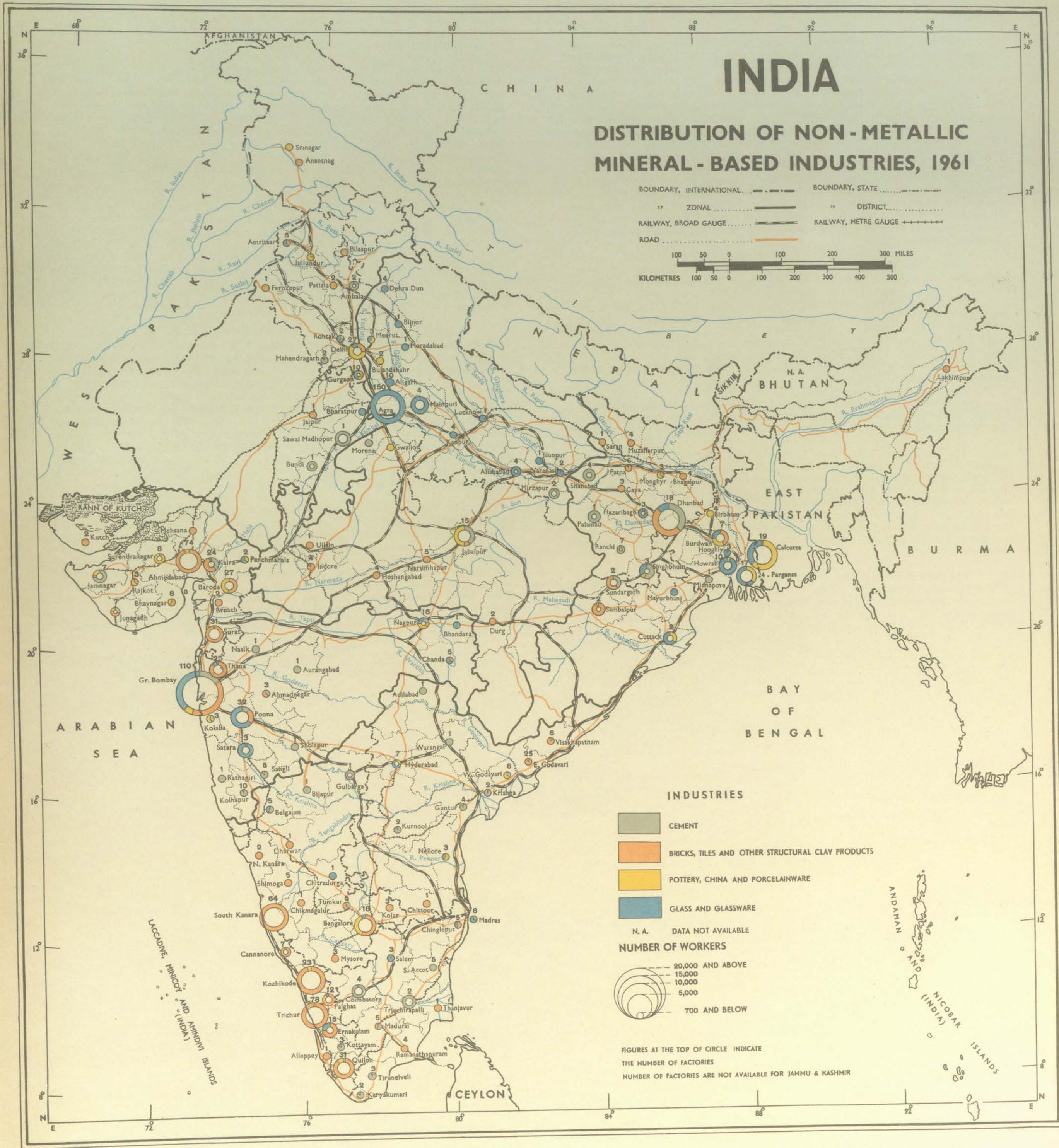
In the interior plateau of southern peninsula, cement industry seems to be more important than other non-metallic industries except in Bangalore, Kolar, Chittoor and Nellore districts where some bricks and tiles factories and pottery industries predominate. The remaining districts are mainly supporting cement industry.

On the whole, the central part of the peninsula embracing Andhra Pradesh, Madhya Pradesh and Orissa, the eastern Uttar Pradesh, Kashmir Himalayas and Rajasthan are poor in non-metallic mineral based industries. The north-eastern part of the country—Assam, North-East Frontier Agency, Nagaland, Manipur and Tripura does not have any non-metallic industries except one small factory producing bricks, tiles and other structural clay products in Lakhimpur district.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large scale industries in India.

INDIA

DISTRIBUTION OF NON-METALLIC MINERAL-BASED INDUSTRIES, 1961



DISTRIBUTION OF ENGINEERING AND SCIENTIFIC INSTRUMENT INDUSTRIES, 1961

Purpose : The map depicts the distribution of engineering and scientific instrument industries in various districts of the country in 1961.

Method : Engineering industries, as shown in this map, are of five types and scientific instrument industries are of four types. Under Engineering industries are considered—i) heavy machines and tools; ii) heavy electrical equipments (motors, generators, transmitters etc.); iii) manufacturing and assembling of machinery other than electrical; iv) electrical goods (lamps, fans, insulator wires, cables, battery, radio, microphone etc.) and v) general jobbing and engineering goods. Under scientific instrument industries are considered—i) the optical instruments and lenses (including photographic optical goods); ii) scientific, medical and surgical instruments; iii) assembling and repairing of watches and clocks and iv) manufacturing and tuning of musical instruments. Circles proportionate to the total workers in the five categories of engineering industries and four types of scientific instrument industries are drawn in each of the districts where they predominate. Sectors proportionate to the workers engaged in each type of industries are cut off in the respective circles and they are shaded by different colours as shown in the legend. Figures alongwith the circles indicate the total number of factories producing engineering and scientific instruments in the districts.

Salient Features : 1) The engineering industries are by far more widespread and employ more workers than the scientific instrument industries.

2) Manufacturing of heavy machines and tools, assembling of machines other than electrical goods and heavy electrical equipments are the dominating industries in the country. They employ not less than three-fourths of the total workers under engineering industries.

3) The general jobbing and engineering industries are smaller units and more widespread in the country.

4) Among the four types of scientific instrument industries, the factories manufacturing medical and surgical instruments are more numerous and employ more workers.

The Hooghly Industrial Region supports the largest number of factories engaged in manufacturing and assembling of machines and tools (both heavy and medium) and heavy electrical equipment in the country. The employment strength of the electrical equipment industries appear to be higher than the heavy machine industries in this area. Greater Bombay is the second important centre of engineering industries. About 50% of the total workers in engineering industries in Greater Bombay find employment in machine and tool manufacturing factories and the remaining 50% in the establishments manufacturing electrical goods.

The third important area of engineering industries is Bangalore district in Mysore State. Nearly 35% of the workers in this area are engaged in electrical equipment industry. The next important area of engineering industries is in the Punjab plain and its annexe in Ganga-Yamuna *doab* area. The districts of Amritsar, Jullundur, Ludhiana, Gurgaon and Meerut are significant

in engineering industries by their employment strength. In Amritsar, Jullundur and Ludhiana districts manufacturing of heavy machines, in Gurgaon district, electrical goods industry and in Meerut district, general jobbing and engineering are the more prominent engineering industries.

Other than these four major areas mentioned above, engineering industries are found in some of the districts where big cities with population over 100,000 predominate. They are the districts of Ahmedabad, Baroda, Sehore, Jabalpur, Kanpur, Hyderabad, Poona, Madras, Quilon etc. In Ahmedabad, Baroda, Thana, Poona, Satara and Hyderabad districts, manufacturing and assembling of heavy machine tools and general jobbing industries are significant. In Sehore and Jabalpur districts electrical goods industries; in Lucknow, Kanpur and Madras districts general jobbing and engineering industries are important. In Quilon district also electrical goods industry and general jobbing are the more prominent engineering industries.

• General jobbing and engineering goods industries are smaller in size of employment strength and they are distributed more on the eastern part of the country than in the western part. It is worthnoticing that the peninsular part, except for a few districts, such as, Hyderabad in Andhra Pradesh, Chitradurga and Bangalore in Mysore, Durg in Madhya Pradesh, Madras and Coimbatore in Madras State, Palghat and Quilon districts in Kerala is mostly devoid of the engineering industry. Similarly the States of Jammu & Kashmir, Rajasthan, Madhya Pradesh and Assam in the North also have only a few engineering industries.

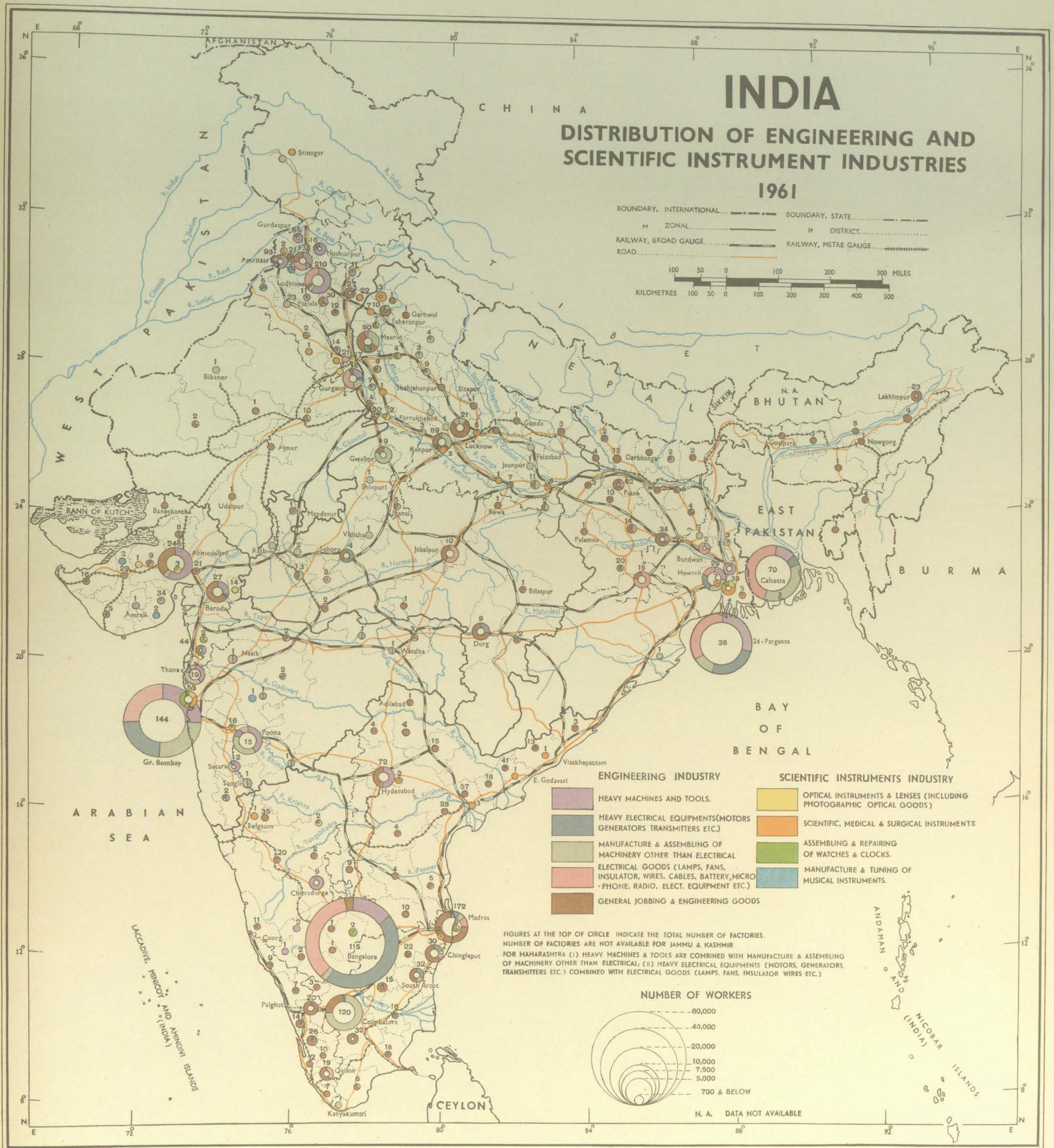
Scientific instrument industries which are usually small are mainly concentrated in the Greater Bombay area (53 Units) and Calcutta Industrial Region (39 Units). The production of scientific, medical and surgical instruments is the predominant industry among the various scientific instrument industries not only in these two industrial regions only but also in the country as a whole. The availability of scientific and technical labour and a great demand for their finished products by the scientific and technical institutions located in these areas are, perhaps, the reasons for their heavy concentration of the scientific instrument industries in these two areas. The other centres of manufacturing of scientific and medical instruments are in the districts of Dehra Dun, Ambala, Lucknow, Kanpur, Allahabad, Poona, Belgaum, Hyderabad, Visakhapatnam, East Godavari, Krishna, Chingleput and Madras. Most of these districts support scientific and educational centres.

The industries producing optical instruments and lenses are located in the districts of Western Uttar Pradesh and Saurashtra where the manufacturing of glass and glassware industry is a traditional industry due to the availability of glass sands. Like other scientific instrument industries, they also find sites near the major centres, such as, Greater Bombay, Calcutta, Madras, Hyderabad etc. Assembling and repairing of watches and clocks would be found mostly localised in the metropolises, such as, Bombay, Calcutta, Madras and Bangalore. Small units of this industry are located in Surat District of Gujarat and Varanasi district of Uttar Pradesh. Most of the factories (less than 20 in number in all) manufacturing and tuning of musical instruments are located in Saurashtra, Punjab plain and Maharashtra.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF ENGINEERING AND SCIENTIFIC INSTRUMENT INDUSTRIES 1961



DISTRIBUTION OF TRANSPORT EQUIPMENT INDUSTRIES, 1961

Purpose : The map depicts the districtwise distribution of the transport equipment industries in the country in 1961.

Method : Six types of transport equipment industries, such as—i) manufacture, assembling and repairing of locomotives; ii) manufacture of coaches, wagons, tramways and other rail equipments; iii) manufacturing of motor vehicles including assembling of motor vehicles of all types; iv) manufacturing of bicycles; v) ship-building industry (building and repairing of ships, steamers, boats and marine engines) and vi) air-craft industry are depicted in the districts where they are found. The total number of workers engaged in the six types of transport equipment industries in the districts are shown by proportionate circles. Sectors are cut off in each of the circles proportionate to the number of workers engaged in each type of transport equipment industry and they are shaded as per the scheme given in the legend. The total number of units in transport equipment industries in each of the districts is given at the top or inside the circle.

Salient Features : Some of the salient features traced in the map are—i) ship-building industry near the ports; workshops, assembling and repairing of locomotives are more in number and larger in size in the northern plain where the railway network is dense; ii) the industries manufacturing and assembling motor vehicles are widespread in the country, but their employment strength is not so important; iii) the only air-craft factory in the country is located in the south, though there are air-craft repairing workshops in major metropolises, such as, Bombay, Calcutta, Delhi etc.; iv) the mountainous and hilly tracts in the north and east are devoid of transport equipment industry and v) the north-eastern part of the peninsular plateau supports a very few factories manufacturing transport equipments.

Greater Bombay is the largest centre of transport equipment industries in the country. The automobile industry (manufacturing, assembling and repairing of all types of motor vehicles) is the foremost industry employing 31.7% of total workers in transport equipment industries in this area. The manufacturing of rolling stock equipments for railways is the second largest industry which is followed by ship-building industry in this area.

In Calcutta Industrial Region, manufacture of coaches, wagons, tramways and other rail-equipments are important among the transport equipment industries and they support 34.40% of workers. Manufacturing, assembling and repairing of motor vehicles of all types form the second largest industry in this region. In Calcutta district, especially the building and repairing of ships,

engage nearly 60% of workers in transport equipment industries, while in Hooghly district all the workers in transport equipment industries are engaged in the manufacturing and assembling of motor vehicles. Midnapore and Burdwan districts in West Bengal also have some workshops for assembling and repairing of locomotives and other railway equipments. The Chittaranjan Locomotive manufacturing factory is also located in Burdwan district.

The Great plain in the north supports some large workshops engaged in assembling and repairing of locomotives, railway coaches, wagons etc. They are distributed in the districts of Monghyr in Bihar; Gorakhpur, Lucknow, Meerut, Jhansi and Bareilly in Uttar Pradesh and Ambala and Amritsar in Punjab State. The factories engaged in assembling and manufacturing of all types of motor vehicles are scattered all over the country but their occurrences are more frequent in Uttar Pradesh. This is so also in the three peninsular States of Maharashtra, Mysore and Madras. Almost every district in the Great Plain has one or two motor vehicles repairing units. Bicycle manufacturing is an important industry in the Union Territory of Delhi and the neighbouring districts of Gurgaon and Rohtak in Punjab.

Greater Bombay and Poona districts in Maharashtra have a large number of motor vehicle assembling shops. Bangalore district in Mysore and Madras district in Madras State are the leading centres in the south. Bangalore district is the largest centre of transport equipment industries in south. It supports the biggest air-craft industry of the country and the biggest motor vehicle assembling industry in the south. In the States of Kerala, Madras and Andhra Pradesh, the assembling and repairing of motor vehicles is the most important branch of transport equipment industries though it employs fewer people. Manufacture of automobiles in Madras city, bicycle manufacturing in Chingleput district, ship-building and ship-repairing in Visakhapatnam and Ernakulam districts are some of the important transport equipment industries of southern India. In Calcutta, Howrah and Greater Bombay, ship-building and ship-repairing are worth mentioning.

In Gujarat and Rajasthan States, there are a few loco-sheds for assembling and repairing of locomotives. They are in Ahmedabad, Rajkot and Panchmahals districts in Gujarat; Ajmer, Jodhpur and Bikaner districts in Rajasthan.

The States of Orissa, Madhya Pradesh and Assam have a few units engaged in transport equipment industries. There are only a few motor vehicle repairing workshops and a few railway repairing yards in these States.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF TRANSPORT EQUIPMENT INDUSTRIES, 1961

BOUNDARY, INTERNATIONAL BOUNDARY, STATE
 " " ZONAL " " DISTRICT
 RAILWAY, BROAD GAUGE RAILWAY, METRE GAUGE
 ROAD
 100 50 0 100 200 300 MILES
 KILOMETRES 100 50 0 100 200 300 400 500



DISTRIBUTION OF CHEMICAL INDUSTRIES, 1961

Purpose : The map shows the districtwise distribution of chemical industries in the country in 1961.

Method : The chemical industries are classified into nine categories, such as—i) basic industrial chemicals, such as, acids, alkalies and other salts not elsewhere classified; ii) fertilizers; iii) matches; iv) medicines and pharmaceutical products, perfumes, cosmetics and other toilet products; v) soaps; vi) plastic products, synthetic resins etc.; vii) synthetic rubber and rubber products; viii) petro-chemical industries, methanol, formaldehyde, styrene etc. (including paints & varnishes) and ix) coal-chemical industries (coal-tar, carbon black etc.). In each district, a circle proportionate to the total number of workers engaged in these nine types of chemical industries is inserted and therein sectors proportionate to number of workers engaged in each type of chemical industry are cut off and shaded by colours as shown in the legend. The total number of units in each of the districts is given on or inside the circles.

Salient Features : Following are the salient features revealed in this map—i) the chemical industrial units are mostly scattered all over the country but a somewhat small concentration is noticeable in the districts of the main industrial belts like Calcutta, 24-Parganas and Greater Bombay and ii) outside the industrial belts the factories are small in size and are mostly market-oriented.

The Bombay Industrial Region comprising the districts of Greater Bombay, Thana and Poona supports the largest number (649) of chemical industries in the country. Medicines and pharmaceuticals, perfumes, cosmetics etc. are the dominating chemical industries in this region which together support about 27% of the total workers in chemical industries of this very region. The other important chemical industries which rank in the descending order of employment strength are coal-chemical industries, synthetic rubber and rubber products industries, plastic products, synthetic resin industries etc.

Chemical industry in the Calcutta region on the other hand is less diversified and its major branch is synthetic rubber and rubber products which alone supports about 52% of total workers in chemical industries in this region. The production of pharmaceuticals, medicines, toilet goods etc. form the second important branch of chemical industries of the Calcutta region and petro-chemical industries rank next to it. The total number of factories located here (including Calcutta, Hooghly, Howrah and 24-Parganas) numbers 204. In the south, concentrations of chemical industries are found in the States of Madras, Kerala and southern Mysore. Almost all the districts in Kerala, Madras and southern Mysore support atleast one or two chemical factories. The districts of Ernakulam (in Kerala), Bangalore (in Mysore), Chingleput, Ramanathapuram and Tirunelveli (in Madras) are the important districts having chemical industries. In Ernakulam district, industries producing fertilizers, soaps, basic chemicals and rubber products are important. Cheap hydel and manpower alongwith the availability of raw materials like coconut oil, rubber and salt from sea are the main factors for developing chemical industries in this area. In Chingleput, Ramanathapuram and Tirunelveli districts

of Madras State, match manufacturing is the leading chemical industry. Availability of softwood in abundance in the nearby forested areas has influenced to a great extent the concentration of match factories in these districts. The district of Ramanathapuram, for example, has 75 match factories.

Associated with the cotton textile industries, certain basic chemical industries have developed in Ahmedabad (28) and Baroda (13) districts in Gujarat State. In the coastal districts of this State like Junagadh (4) Surendargarh (4) and Jamnagar (4) salt industries are naturally developed. The small units are important because the chemical industries engage in these districts, 1,083; 1,172 and 2,031 workers respectively against 1,740 workers in the chemical industries of Ahmedabad, the leading industrial centre of the State.

In Dhanbad district of Bihar is located the Sindri fertilizer factory which is the largest fertilizer manufacturing unit of the country. There are also some small factories producing basic industrial chemicals, plastic products and coal-chemical products. In all, there are 21 chemical factories in this district. A few other districts of Chotanagpur Plateau, such as, Palamau (32), Ranchi (26) and Santal Parganas (6) also support small sized factories producing plastic products. Availability of wood and other forest products in these areas alongwith power resources available perhaps give an impetus to the growth of this particular branch of chemical industry. Associated with iron and steel and other industries in Tata Nagar, 4 medium sized chemical industries have developed in Singhbhum district.

Hoshiarpur district in Punjab has the second biggest fertilizer factory of the country. The availability of cheap hydel-power from the Bhakra-Nangal power stations and the demand for chemical fertilizers in the north-western India are the probable reasons for establishing the fertilizer industry at Nangal in this district. The Union Territory of Delhi has 29 medium and small sized chemical industries which are mostly market-oriented. Other important districts in northern India having these industries are Gurgaon (17), Kanpur (18), Amritsar (18) etc.

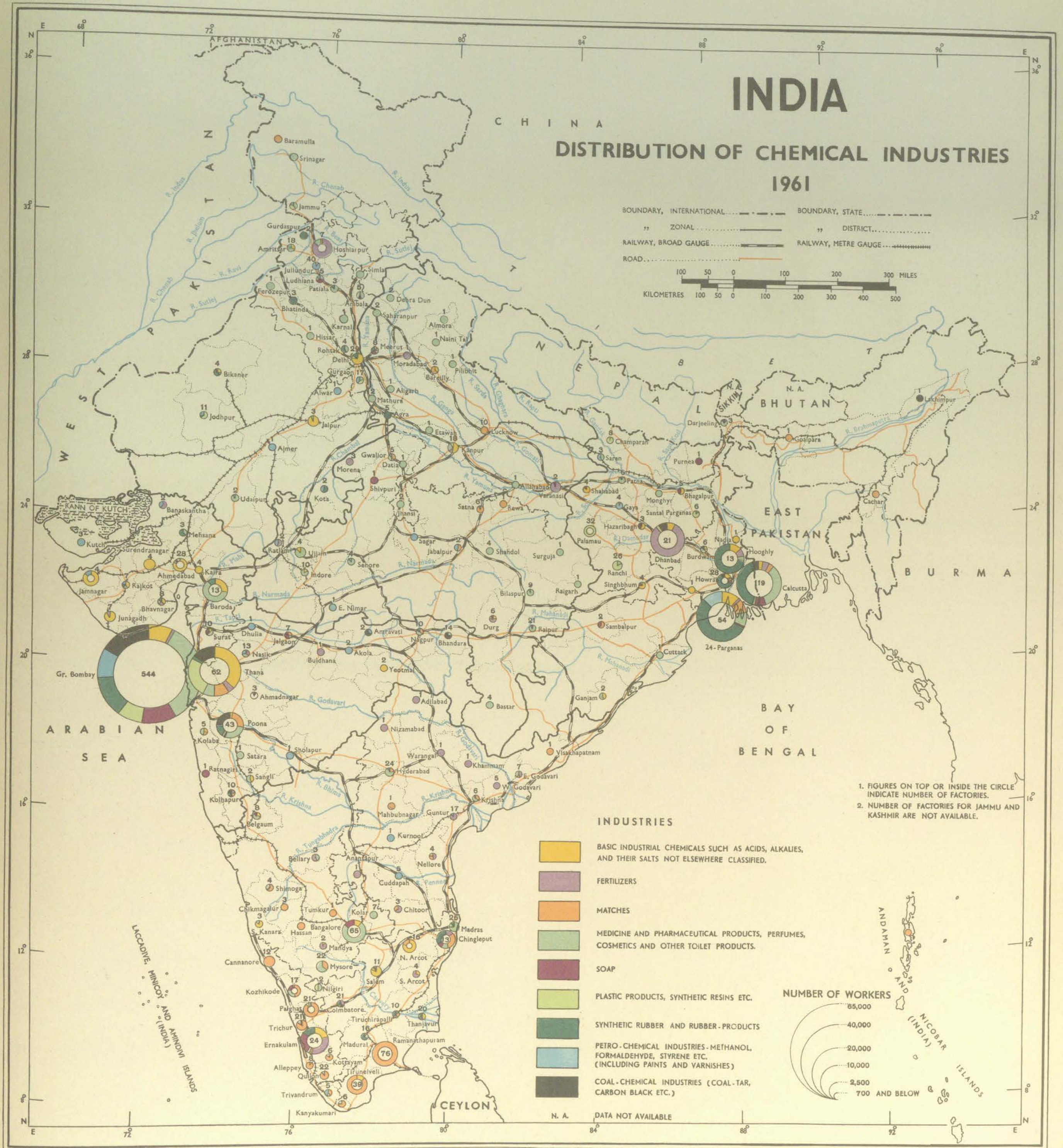
The demand for chemical fertilizers has encouraged the location of a few small sized fertilizer factories in the lower Godavari valley and the coastal districts of Andhra Pradesh. There are a few factories producing matches and pharmaceuticals in Hyderabad district (24) of Andhra Pradesh and Mysore district (22) of Mysore State. Ujjain and Indore are the two important districts of Madhya Pradesh having chemical industries.

An extensive area in central India comprising part of Bastar hills of Madhya Pradesh, its adjacent Orissa hills and plateaus, the central and southern part of Maharashtra plateau and northern part of Mysore plateau has hardly any chemical industries. The States of Assam and Jammu and Kashmir are also deficient in chemical industries. Associated with the deposits of gypsum, limestones etc., there are some chemical industries developed in Jodhpur (11) and Bikaner (4) districts of Rajasthan. These are mostly fertilizer and basic chemical industries.

Source : 1 List of Industries published by the Director of Industries/Inspector of Factories.
2 Large Scale Industries in India.

INDIA

DISTRIBUTION OF CHEMICAL INDUSTRIES 1961



Electricity

DISTRIBUTION OF EXISTING AND PROPOSED ELECTRICITY GENERATING STATIONS, 1961

Purpose : This map is intended to show the distribution of major electricity generating stations, existing and proposed in the country during 1961.

Method : The major existing and proposed electricity generating stations are shown by circles proportionate to their installed capacity. The existing and proposed electricity generating stations are represented on the map by drawing full and broken circles respectively. The source of electricity—thermal and hydel are further distinguished by colours as indicated in the legend to the map. For the proposed thermal power stations, abbreviations 'G' and 'A' are used to indicate 'Gas Turbine' and 'Atomic' respectively while the red circles denote power generated from steam.

Salient Features : The map shows that there were in all 101 electricity generating stations in India during 1961. Out of these, 57 and 44 were thermal and hydro power stations respectively. The proposed stations are 13 thermal and 12 hydel, the total being 25.

Existing Electricity Generating Stations :

The existing stations can be well described under three heads. Pre-Plan Period Stations (Till 1951-52) : The early power stations were erected near the big cities for meeting their domestic and industrial needs. The first hydro power station was established at Darjeeling (1898) with a very low capacity and has not been shown in the map. This was followed by Sivasamudram in Mysore (1902), Mohra on the bank of Jhelum (1909) and Tata's hydel stations in Maharashtra. The progress of public electricity installations in the country from 1900 to 1920 was rather slow but since then there was a rapid and continuous expansion. The total electricity generating capacity was doubled from about 1 million kw. in 1939 to 1.71 million kw. in 1950. Approximately 60 per cent of the electricity generated was from coal, 32 per cent from hydro electric and remaining from oil.

In addition to above mentioned power stations, there were a number of industrial and railway installations having their own power plants. The total generating capacity of these plants was approximately 588,000 kw. in 1950. Including these stations, the total electric generating capacity in the country in 1950 was approximately 2.3 million kw. of which 1.7 million kw. was thermal and about 560,000 kw. or 0.6 million was hydro electric.

Stations constructed during First Five Year Plan (1951-52 to 1955-56) :

During this period additional power generated was 800,000 kw. in the public sector and 200,000 kw. in the private sector. There was a net increase of about 100,000 kw. in the power plant capacity of industrial establishments bringing the total capacity to 700,000 kw. in March, 1956. The principal power schemes completed and brought into service during the first plan period

were Nangal (H, 48,000 kw.), Bokaro (T, 150,000 kw.), Chola (T, 54,000 kw.), Khaperkheda (T, 30,000 kw.), Mysore (H, 36,000 kw.), Madras City Plant Extensions (T, 30,000 kw.), Machkund (H, 34,000 kw.), Pathri (H, 13,600 kw.), Khatima (H, 27,600 kw.), Singulam (H, 48,000 kw.) and Jog (H, 72,000 kw.). The major multipurpose river valley projects commissioned were Bhakra Nangal (Bhakra, Ganguwal and Kotla), Hirakud (Hirakud), Damodar Valley (Tilaiya, Maithon and Panchet), Chambal (Gandhi Sagar), Rihand (Rihand) and Koyna.

Stations of Second Five Year Plan (1956-57 to 1960-61) :

By the end of the First Five Year Plan, the total installed generating capacity was 3.4 million kw. of which 2.7 million kw. was in electric supply undertakings in the public and private sectors and 0.7 million kw. in industrial establishments generating their own power. Taking into account the targets fixed for industrial development, the Second Five Year Plan provided for raising the installed capacity to 6.9 million kw. of which 1.0 million kw. was to be accounted for by the self generating industries. But the actual achievement was nearly 5.8 million kw. The new major power generating schemes in Second Five Year Plan were Kundah (H), Hirakud (H), Ramganga hydel scheme, Durgapur thermal station, Sharavati hydro electric scheme etc. The important power generating schemes in the private sector installed and given extension during this period were Ahmedabad Electricity Co., Ltd., (T), Tata power system, Trombay (H), Lucknow electric supply Co., (T) etc.

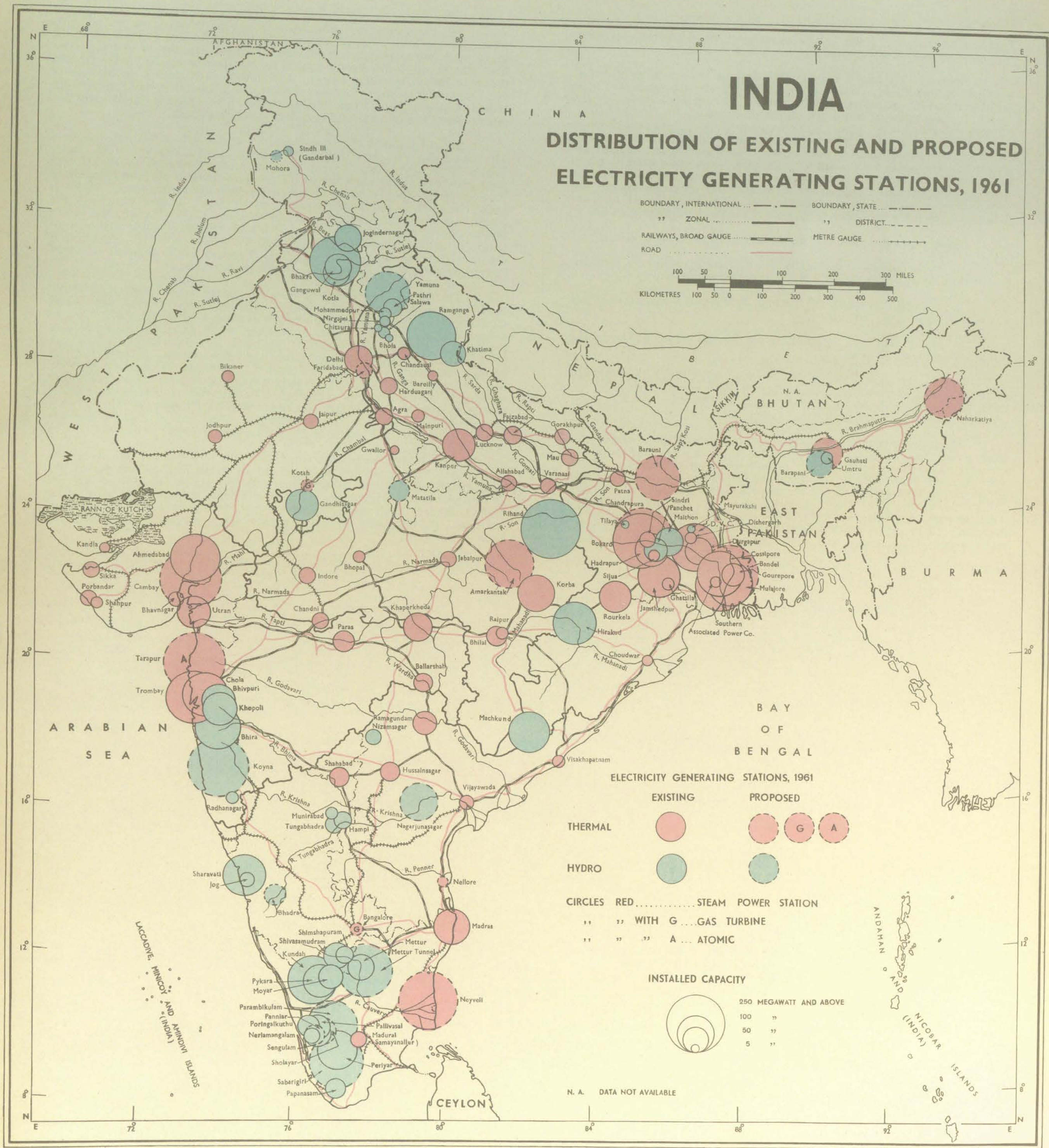
Proposed electricity generating stations :

These were the proposed stations for Third Five Year Plan (1961-62 to 1965-66)—In the Third Five Year Plan, the aggregate capacity of the power plants was expected to be 134 million kw. of which about 127 million would be utilized in commercial operations. The major power schemes to be operated were Nagarjunasagar hydro electric project, Naharkatiya thermal station, Barauni thermal station, Chandrapura power plant, Cambay thermal station, Sabarigiri hydro electric project, Mettur tunnel hydro electric project, Neyveli thermal station, Koyna hydro electric project, Tarapur nuclear power station, Bundel thermal station etc. of which the following have since been completed : Chandrapura power plant, Cambay thermal station, Mettur hydro electric project and Bundel thermal station. The remaining projects are either partly commissioned or in various stages of completion.

It had also been planned to develop nuclear energy and an atomic power station at Tarapur near Bombay. It would consist of two reactors each producing 190 mw. of power. It was further proposed to install second atomic power station in Rana Pratap Sagar Dam near Kota in Rajasthan but this is not shown in the map.

In the map, the periods of origin of the electricity generating stations are, however, not indicated.

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- Source : 1 "The New India" (Planning Commission, Govt. of India).
2 "Bhagirath" Vol. XV, April '68 (Ministry of I. & B.)
3 "The First Five Year Plan" (Planning Commission, Govt. of India)
4 "Second Five Year Plan" (Planning Commission, Govt. of India).
5 "Third Five Year Plan" (Planning Commission, Govt. of India).
6 "India 1961" (Publication Division, Ministry of I. & B.)
7 "India 1964" (Publication Division, Ministry of I. & B.)
8 T.E.C. Dte., C.W. & P.C. (P.W.), New Delhi.



MAP III

TRANSMISSION NETWORK OF ELECTRICITY, 1961

Purpose : This map depicts the network of electricity transmission lines and the location of power stations and sub-stations which were in existence or under construction or approved for construction in 1961.

Method : The map is based mainly on the "Power Map of India" prepared by the Central Water & Power Commission, Government of India in September, 1965 and revised in July, 1966. The data are, however, supplemented by information collected from different sources.

The electric transmission lines are shown by different colours varying in thickness according to their load capacity, such as, 220 kv.; 132/110 kv. and 66 kv. The power stations and sub-stations are shown by different symbols according to their type and stage of construction. The power transmission lines completed till 1961 are shown in red colour. Five important systems are shown in insets but they are not drawn to scale. The double circuit lines are indicated by double lines against the symbol of each power transmission line.

Salient Features : The map highlights the following main features :

1. The transmission net work is comparatively dense in the southern part of the country and in the industrial regions of Damodar Valley;
2. Till 1961, the length of the high load capacity transmission lines was of little significance and
3. In the Himalayan region and in the Central Indian highlands the power lines are less developed.

In 1961, the closing year of Second Five Year Plan, about 157,888 circuit kilometres of transmission lines existed in the country. Of these 66 kv. transmission lines, as shown in the map, covered 26,706 kilometres i.e., about one-sixth of the total length in existence during 1961.

The southern peninsula in comparison to the rest of the country have more power lines. Madras State alone has about 21 per cent of the 66 kv. transmission lines in the country. The main power generating stations of the State are : the hydro stations of Mettur and Periyar and the thermal stations of Neyveli and Madras. These stations transmit power through 220 kv. and 132 kv. lines with other branch lines of lower load capacity. In Mysore State, the transmission lines are more closely aligned in the southern part of the State. There are two major systems : one comprising Jogfalls and Bhadravati in western Ghats region and other emerging from Tungabhadra power

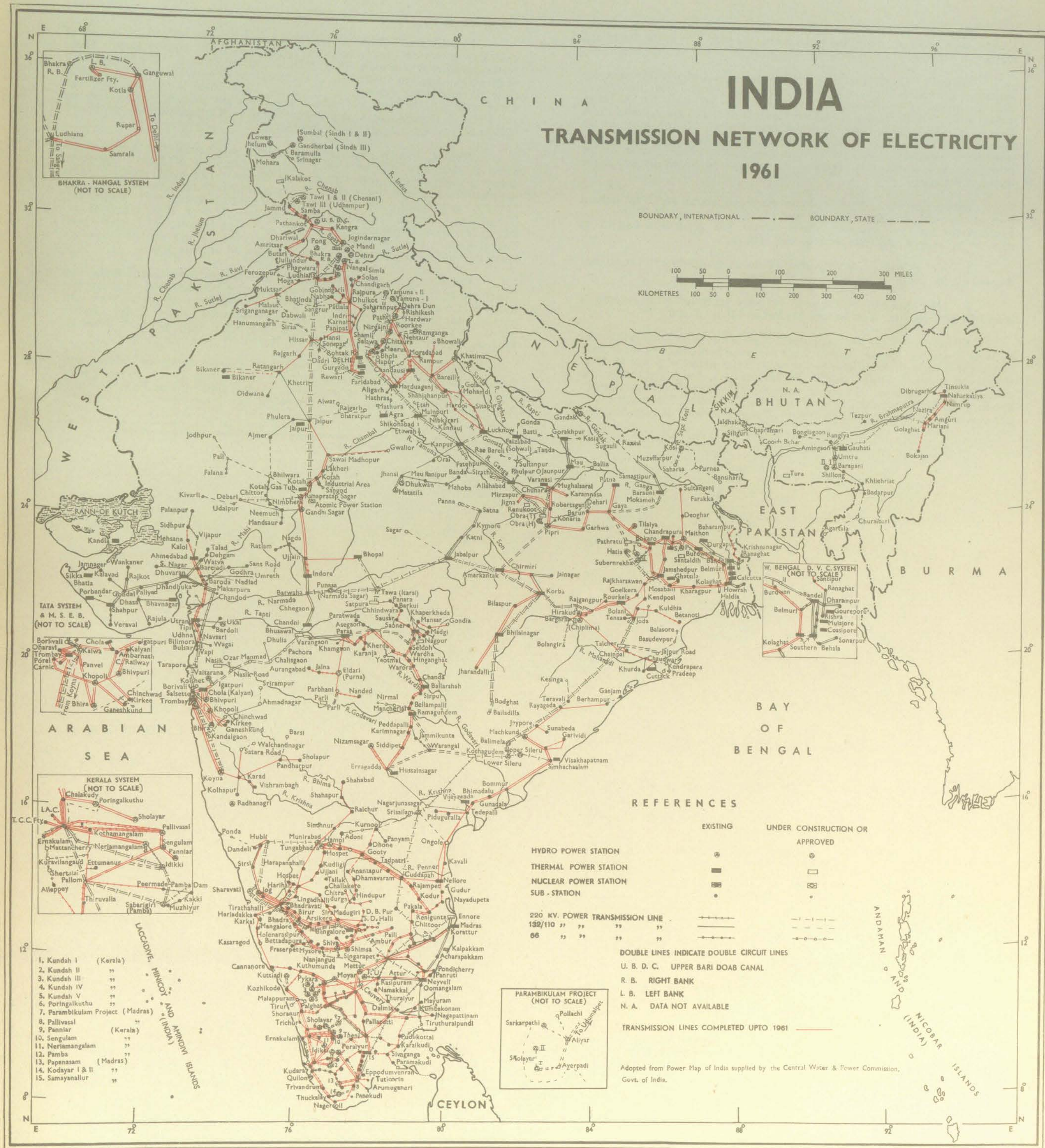
station. The State electricity grid of Kerala comprises four hydel power station, viz., Poringalkutha, Pallivasal, Sengulam and Nerlamangalam, all being located in the hilly areas of western Ghats. In Andhra Pradesh State, the major trunk line of electric transmission with load capacity of 132 kv. runs from Machkund hydro power station to Vijayawada in double circuit and further to Nellore in single circuit. This line flanked with a double line of 66 kv. traverses through Rayalaseema area and joins with the Tungabhadra system of Mysore State. The northern part of the State exhibits only one double circuit line of 66 kv. transmitting from Nizamsagar.

In the north-west of Punjab State, the total length of transmission lines with load capacity of more than 66 kv. is about 2,444 kilometres. The major lines of 220 kv. runs from Nangal to Delhi which decreases to 66 kv. and joins Faridabad. The other line of 132 kv. goes towards north to Jammu and Amritsar from Nangal power station. One more transmission line of 220 kv. is under construction which will transmit power from Nangal station to the entire State of Punjab and Rajasthan. In Western Uttar Pradesh, the entire transmission system relates to Ganga grid and Khatima power station. In Uttar Pradesh, one transmission line of 220 kv. which is under construction will cover the entire State stretching from Yamuna Hydel Scheme to Obra Power station through Harduaganj, Mainpuri and Kanpur.

The transmission network of north-eastern India comprises mainly three major systems—Damodar Valley system in West Bengal and Bihar, Hirakud system in Orissa and Pipri system in eastern Uttar Pradesh. A grid of double circuit 132/110 kv. lines covers the entire Damodar Valley Region passing through Bokaro, Maithon, Calcutta and Jamshedpur. This has further extended towards west and joins with Pipri system of eastern Uttar Pradesh. The other branch lines bifurcating from this main line are—Maithon to Sultanganj and Chandrapura to Jamshedpur. In Orissa State, the entire network of transmission is connected with Hirakud and Rourkela power generating stations. It is linked with Damodar Valley system by 132 kv. lines running between Rourkela and Jamshedpur. One line of 220 kv. running between Machkund and Joda is under construction in Orissa State.

Apart from these areas, isolated lines are also marked mainly in the central India. These are—(i) Bombay and its hinterland districts served by Tata system; (ii) eastern Maharashtra; (iii) Ahmedabad and Utran grid in Gujarat plain; (iv) Ranapratap Sagar and Gandhi Sagar system of western Madhya Pradesh and eastern Rajasthan; (v) North-eastern Assam and adjoining areas and (vi) Korba system in eastern Madhya Pradesh which is mostly under construction.

Source : "Power map of India" by Central Water & Power Commission, September, 1965.



GENERATION PATTERN OF ELECTRICITY, 1961

Purpose : This map shows the generation of electricity from various sources, such as, steam, diesel and hydel during the year 1961 in the States and the Union Territory of Delhi for which the break up of the data are available.

Method : The data on electricity generated in kwh. in the different States and the Union Territory of Delhi in 1961 are grouped into five ranges, such as, above 1600, 1101—1600, 601—1100, 101—600 and 100 & below million kwh. The States and the Union Territory of Delhi are hatched from deep to light shades according to their generation figures. Inside each of the States and the Union Territory of Delhi, circles proportionate to total electricity generated are drawn and they are divided into sectors proportionate to the percentage share of electricity generated by various sources as shown in the legend of the map.

Salient Features : In 1961, India generated about 16,929.69 million kwh. of electricity, of which 51.56 per cent was steam power, 46.28 per cent hydro power and 2.16 per cent diesel power. The generation pattern as depicted in the map highlights the following features :

1. An overwhelming proportion of electricity generated in India was thermal (51.56%) and hydro power (46.28%) and
2. More than half of the total electricity generated in the country is shared by Maharashtra, West Bengal, Madras and Bihar States.

Maharashtra is the leading producer of electricity in the country followed by West Bengal and Madras States. Each of these States produces more than 1600 million kwh. of electricity. Steam is the major source of power in West Bengal and hydel in Madras State. In Maharashtra, hydel and steam are almost equally important. In the generation of hydro power, Madras ranks first followed by Maharashtra, Mysore and Punjab States. The major hydro power schemes of Madras State are Mettur, Pykara, Periyar, Papanasam and

Moyar Projects.

In the States of Bihar, Gujarat and Uttar Pradesh the total output of electricity generated ranges between 1,101 and 1,600 million kwh. These States produce about one-fourth of India's total electricity. The major share of power generated in these States is attributed to thermal sources. In Gujarat State, thermal power accounts for 95.12 per cent, Bihar 88.21 per cent and Uttar Pradesh 62.79 per cent. Some of the important thermal power stations are: Utran in Gujarat, Sindri and Bokaro in Bihar, Kanpur thermal station and eastern area power station in Uttar Pradesh.

Mysore, Punjab and Andhra Pradesh produced 601 to 1,100 million kwh. of electricity each in 1960-61. About one-sixth of India's aggregate output of electricity is generated in these States. The hydro power plants commissioned in the above three States generate about one-third of the country's total hydro power. The significant hydro schemes are : Machkund, Tungabhadra, Hampi and Nizamsagar in Andhra Pradesh, Bhadra and Shara-vati in Mysore and Nangal hydel works and Uhl scheme in Punjab State. Except Andhra Pradesh where steam accounts for 16 per cent of the State's total, the thermal and oil resources are insignificant in these States.

Electricity generated in Kerala, Orissa, Madhya Pradesh and Rajasthan States and in the Union Territory of Delhi ranges between 101—600 million kwh. In Kerala State, power is generated entirely from hydro sources. In Orissa State also about 99% of power is generated from hydro electric plants. Thermal power accounts for a very high proportion in Madhya Pradesh (90.09%), Delhi (87.34%) and Rajasthan (64.95%).

Production of electricity is very low in the States of Jammu and Kashmir (43.5 million kwh.) and Assam (36.2 million kwh.), hydro power being the major source in both the States. Assam which lies in the oil belt also produces electricity from diesel oils (42.34%).

Source : Central Water & Power Commission (Power wing)—Public Electricity Supply—All-India Statistics, 1960-61, General Review.

INDIA

GENERATION PATTERN OF ELECTRICITY 1961



CONSUMPTION PATTERN OF ELECTRICITY, 1961

Purpose : This map depicts the consumption pattern of electricity either generated within or bought from outside in each of the States and the Union Territory of Delhi during 1961.

Method : The data for electricity consumed are grouped into four categories, viz., Above 1200, 601—1200, 101—600 and 100 & below million kwh. The States and the Union Territory of Delhi are hatched by deep to light shades as given in the index. In each of the States and the Union Territory of Delhi, the total electricity consumed has been shown by a proportionate circle divided into sectors showing the consumption of electricity for different purposes—domestic, industrial, commercial and other purposes.

Salient Features : During 1961, the total electricity consumed in the country was 13,806.02 million kwh.* of which 69.29% was consumed for industries, 10.78% for domestic purposes, 6.13% for commercial uses and 13.82% for miscellaneous uses, such as, public lighting, irrigation, water supply etc. The consumption pattern as depicted in the map brings out the following salient features :

1. Industries use more than two-thirds of the total electricity available for consumption in the country;
2. The proportion of electricity used for domestic purposes is high in those States where the total consumption is less, such as, Assam, Jammu & Kashmir etc.;
3. In the eastern States of Bihar, West Bengal and Orissa an overwhelming share of the electricity is consumed by industries and mining and
4. Electricity consumed for commercial purposes accounts for the lowest proportion (6.13%).

In India, Maharashtra State consumes the maximum quantity of electricity (2,719.5 million kwh.) followed by West Bengal (2,544.8 million kwh.) and Madras (1,665.1 million kwh.). Each of these States also leads in the generation

of electricity. In West Bengal, industries consume the highest proportion of electricity available (73.1%) followed by Maharashtra (68.12%) and Madras (54.64%). Among the other types of consumption, domestic uses rank second in consumption in West Bengal, transport in Maharashtra and irrigation in Madras.

In Gujarat, Uttar Pradesh, Mysore and Bihar States, the consumption of electricity is to the extent of 601—1,200 million kwh. each. Except Uttar Pradesh, all these States consume a substantial amount of power for industries, such as, Bihar consuming 87.31%, Gujarat 81.94% and Mysore 78.28%. In Uttar Pradesh, industries consume 51.65%, irrigation 28.11%, domestic uses 12.58% and commercial uses 7.66%.

The States of Punjab, Andhra Pradesh, Kerala, Orissa, Madhya Pradesh and the Union Territory of Delhi consume 101 to 600 million kwh. each of electricity. The consumption pattern of all these states show that maximum electricity is consumed for industrial purposes. Orissa state shows a very high proportion (93.71%) of electricity consumed for industrial purposes. The uses for other purposes are negligible. Similarly the States of Kerala, Madhya Pradesh, Andhra Pradesh and Punjab also consume a considerable share of electricity for industrial uses. Domestic uses in Madhya Pradesh (11.19%) and Kerala (10.51%) and irrigational and other uses in Punjab (16.06%) and Andhra Pradesh (13.49%) come next to industrial uses of electricity.

The consumption level of electricity is very low in the States of Rajasthan, Jammu & Kashmir and Assam (below 101 million kwh. each). Among these States, Jammu & Kashmir and Assam exhibit a similar pattern of use—about three-fourths of the total consumption of electricity is attributed to industries and domestic uses. In the State of Rajasthan, domestic uses, public water works and other uses account for half the total consumption and one-third for industrial uses. It is worthnoticing that consumption of electricity for other purposes including irrigation is significantly high for the dry and sub-humid regions, such as, Rajasthan (28.78%), Uttar Pradesh (28.11%) and Madras (26.77%) where irrigational needs are very high.

*Relates to all major States and the Union Territory of Delhi.

Source : Central Water & Power Commission (Power Wing)—Public Electricity Supply—All-India Statistics, 1960-61, General Review.

INDIA

CONSUMPTION PATTERN OF ELECTRICITY 1961



PER CAPITA GENERATION OF ELECTRICITY, 1961

Purpose : This map shows the per capita generation of electricity in the year 1961 for each of the States and the Union Territory of Delhi.

Method : The per capita generation of electricity from various sources have been calculated for each of the States and the Union Territory of Delhi. The figures thus obtained are arranged into five categories—two above; one nearer to and two below the National Average 39·013 kwh. and the States and the Union Territory of Delhi are shaded by different grades of hatching from high to low as shown in the legend of the map. In the centre of each State and the Union Territory of Delhi, circles are drawn proportionate to the total power generated. 'N.A.' has been written for the Union Territories for which data are not available separately.

Salient Features : According to the data furnished by the Central Water and Power Commission, the total power generated in all the States and the Union Territory of Delhi in the year 1961 was 16,929·693 million kwh. which when divided among 434 million people gives a per capita power generation of 39·013 kwh.*

A very high level (above 65·00 kwh.) is visible in the Union Territory of Delhi and the States of Maharashtra, Madras and West Bengal. The Union Territory of Delhi has by far the largest figure (117·71 kwh.) of per capita power generated in the country. Maharashtra ranks next (82·73 kwh.) followed by West Bengal (66·31 kwh.) and Madras (65·79 kwh.). Some of the newly developed power stations in these areas are Koyna hydro-electric project in Maharashtra, Durgapur and Bandel thermal stations in West Bengal, Neyveli lignite power station and Kundah hydro-electric project in Madras and thermal station in Delhi. It is significant to note that despite high pressure of population West Bengal and Madras have very high per capita power generation.

Next come Gujarat and Punjab States in the range 45·01 to 65·00 kwh. of per capita generation of electricity in the country. The per capita generation of electricity in Gujarat is 61·65 kwh. while that of Punjab is 49·44 kwh. The

important power generating stations in Gujarat State are Cambay thermal station, Punasa hydro-electric project and that of Punjab is Bhakra Nangal project.

Bihar, Andhra Pradesh, Mysore, Orissa and Kerala show the per capita power generation nearer to the National Average (39·013 kwh.). Among these States Bihar leads in the total generation of power (1596·83 million kwh.) while in per capita power generation Mysore leads (44·93 kwh.) followed by Kerala (34·47 kwh.); Bihar (34·37 kwh.); Orissa (27·88 kwh.) and Andhra Pradesh (25·02 kwh.). The important power generating stations are Pathratu thermal station and D.V.C. power stations like Bokaro, Tilaiya etc. in Bihar, the Upper Sibiru hydro-electric project and Srisaillam hydro-electric project in Andhra Pradesh, Idikki hydro-electric project in Kerala, Kalinadi hydro-electric scheme in Mysore and Hirakud hydro-electric project and Talcher thermal station in Orissa.

Uttar Pradesh, Madhya Pradesh, Rajasthan and Jammu and Kashmir States show per capita power generation in the range (5·01—25·00 kwh.), which is much below the National Average. Although the total generation of power in Uttar Pradesh comes next to Gujarat but in per capita generation of electricity it trails behind because of its large population. In the remaining States, total power generation itself is low which has resulted into low per capita generation even in sparsely populated areas.

The lowest per capita generation of electricity (5·00 kwh. and below) is recorded in the State of Assam. The total power generated in this state in 1961 was only 36·219 million kwh. Although this state has enormous hydro-power potentiality, the amount of power so far harnessed is insignificant. The important power generating schemes of this state are Umian hydro-electric project, Naharkatiya thermal station and Kopili hydro-electric project.

The above analysis clearly brings out that per capita generation has been high only in those states which are highly industrialized and urbanised.

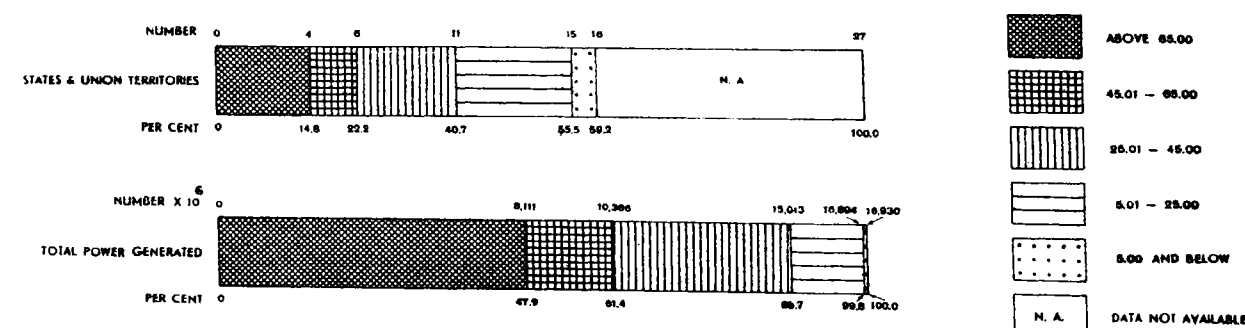
Sl. No.	State/Union Territory	Total population 1961	Total power generated (Mkwh.)	Per Capita power generated (Kwh.)
1	2	3	4	5
	INDIA*	433,952,273	16,929·693	39·013 (39·013)
	STATES			
1	Andhra Pradesh	35,983,447	900·029	25·015 (25·012)
2	Assam	11,872,772	36·219	3·054 (3·051)
3	Bihar	46,455,610	1,596·833	34·370 (34·373)
4	Gujarat	20,633,350	1,271·227	61·650 (61·610)
5	Jammu and Kashmir	3,560,976	43·514	12·155 (12·220)
6	Kerala	16,903,715	581·818	34·468 (34·420)
7	Madhya Pradesh	32,372,408	476·966	14·926 (14·734)
8	Madras	33,686,953	2,213·716	65·787 (65·714)
9	Maharashtra	39,553,718	3,267·877	82·731 (82·619)
10	Mysore	23,586,772	1,057·998	44·926 (44·855)
11	Orissa	17,548,846	489·640	27·884 (27·902)
12	Punjab	20,306,812	1,003·638	49·440 (49·424)
13	Rajasthan	20,155,602	108·402	5·380 (5·378)
14	Uttar Pradesh	73,746,401	1,252·321	16·981 (16·981)
15	West Bengal	34,926,279	2,318·739	66·307 (66·390)
	UNION TERRITORY			
1	Delhi	2,658,612	310·756	117·711 (116·887)

*Calculated on the basis of total generation of electricity of all the major States and the Union Territory of Delhi. All the data discussed in this map relate to these areas only.

Note : 1 Figures given within brackets in the last column show the per capita power consumed on the basis of population figures published in Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

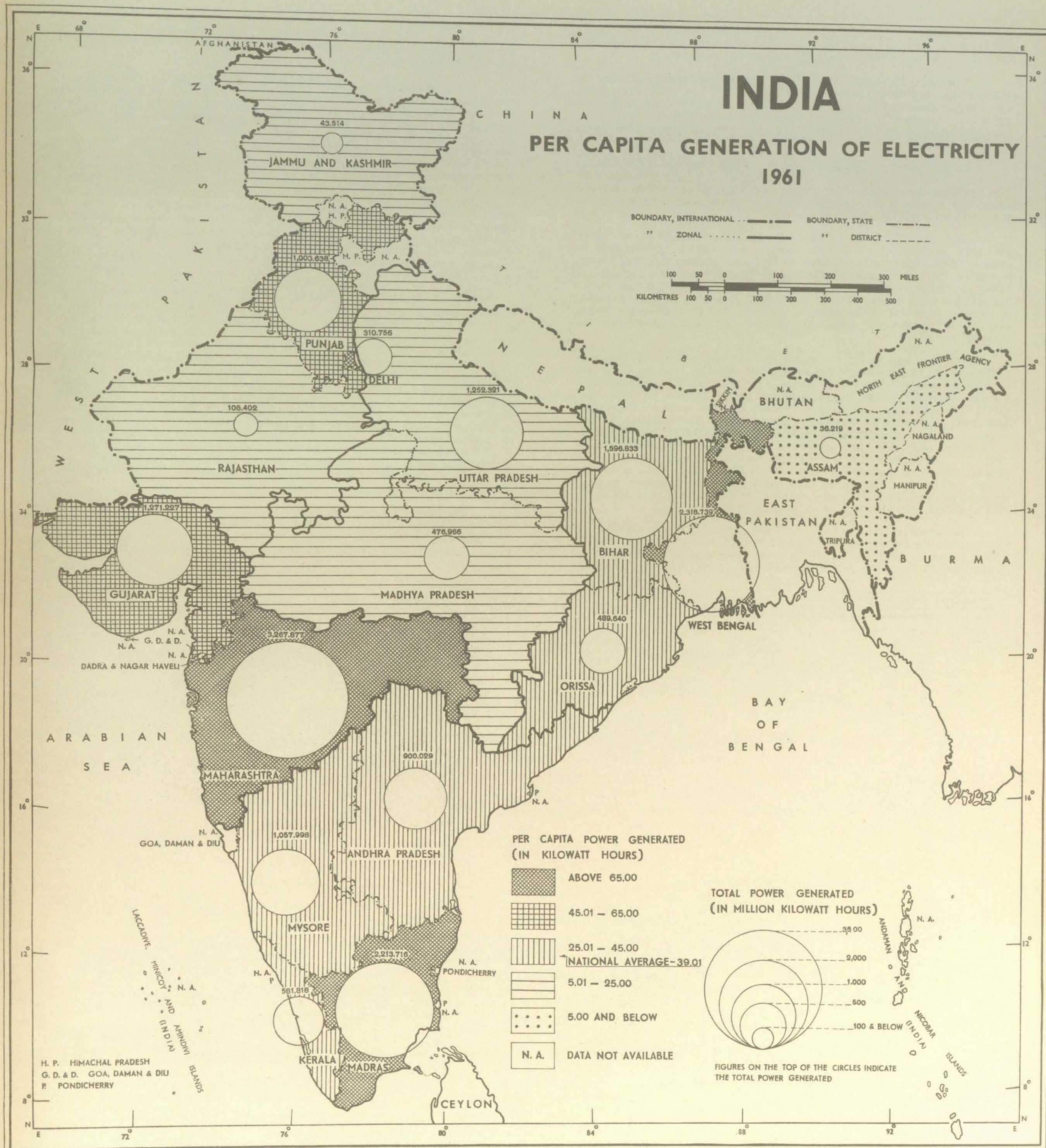
2 Data for other Union Territories are not available separately.

Source : Central Water & Power Commission (Power Wing)—Public Electricity Supply—All-India Statistics, 1960-61, General Review.



INDIA

PER CAPITA GENERATION OF ELECTRICITY 1961



INTERCENSAL CHANGE IN PER CAPITA GENERATION OF ELECTRICITY, 1951—61

Purpose : The map depicts the intercensal change in per capita generation of electricity in all the States and Union Territory of Delhi during 1951—61. Data for other Union Territories are not available.

Method : The differences in the per capita generation of electricity in different States and the Union Territory of Delhi in 1951* and 1961 are arranged and hatched into four categories as given in the legend. Two circles (broken and continuous lines) proportionate to total generation of electricity in 1951 and 1961 respectively are inserted in the centre of each State and the Union Territory of Delhi.

Salient Features : Following are the salient features brought out by this map—i) the per capita generation is the highest in Punjab plain where the river Sutlej has been harnessed for generation of hydel power during 1951—61 and ii) the increase in per capita generation during 1951—61 was low in the States which are mostly agrarian in nature.

The Union Territory of Delhi shows the highest increase in per capita generation of electricity (38.99 kwh.) during 1951—61. Its total generation capacity of electricity was 137.3 Mkwh. in 1951 which increased to 310.8 Mkwh. in 1961 recording an increase of 126.36% as against population increase of 52.44% during 1951—61. Punjab also shows a high increase in the per capita generating capacity during 1951—61 as the total generating capacity increased by nearly 5 times due to the commissioning of the Bhakra-Nangal Hydro electric project on the Sutlej river, while the rate of increase of population was 25.86%.

The next high rate of increase in per capita generation of electricity (25.01—35.00 kwh.) is found in Madras and Andhra Pradesh (combined together as separate data are not available for 1951); Bihar, Maharashtra and Gujarat (combined together as individual data are not available for 1951) and Orissa States. Madras and Andhra Pradesh together show an increase of 33.80 kwh. per head in the generating capacity. Their total generating capacity increased nearly four times from 826.8 Mkwh. in 1951 to 3,113.7 Mkwh. in 1961 while the population in these two States increased by only 13.78% during 1951—61. In Maharashtra and Gujarat States (together), inspite of the population increase at a relatively high rate (24.7%), the per capita generation of electricity increased by one and a half times. The total generation capacity increased at a still faster rate (more than two times)—from 1,875.0 Mkwh. in 1951 to 4,539.1 Mkwh. in 1961.

The commissioning of Damodar Valley project in Bihar has raised the State's generating capacity by more than 12 times from 132.0 Mkwh. in 1951 to 1,596.8 Mkwh. in 1961. In Orissa State, the generation of electricity from Hirakud and Machkund Projects increased the generating capacity of the State

from 6.8 Mkwh. in 1951 to 489.6 Mkwh. in 1961. The population in these two States also shows an increase of 19.77% and 19.82% respectively. Hence the per capita generation capacity showed an increase of only 31.088 kwh. in Bihar and 27.419 kwh. in Orissa State.

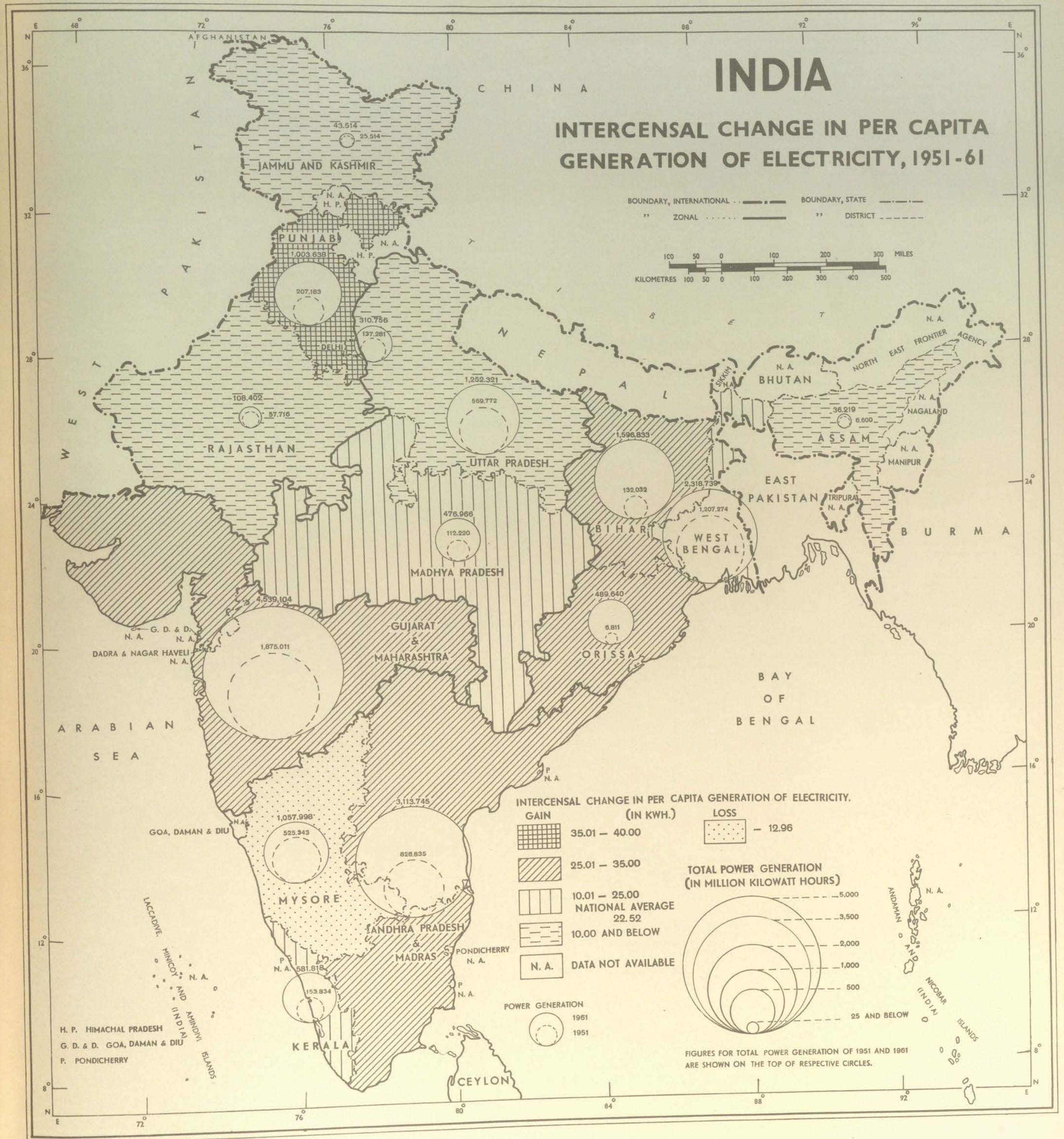
West Bengal, Kerala and Madhya Pradesh recorded an increase in per capita generation capacity ranging between 10.01—25.00 kwh. during the decade 1951—61. The significant increase in generation capacity in each of these states has been offset by the high growth rate of population ranging between 21% and 33% and hence the per capita increase has remained low. For instance, though the generation capacity of West Bengal increased from 1,207.3 Mkwh. in 1951 to 2,318.7 Mkwh. in 1961, an increase of about 100%, it is not reflected in the per capita generation because of the very high decadal growth of population (32.80%). Similarly, the State of Kerala shows an increase in population by 24.8% and although the total generating capacity increased about two times, yet the per capita generation in Kerala showed an increase of about 18 kwh. In Madhya Pradesh, the per capita generation of electricity was low in 1951 (3.84 kwh.). During 1951—61 the total generation capacity increased by 4 times and the population increased by 24.17%. This has led to an increase of per capita generation from 3.84 kwh. in 1951 to 10.88 kwh. in 1961.

The States of Uttar Pradesh, Assam, Rajasthan and Jammu and Kashmir show a very little increase (less than 10.00 kwh.) in the per capita generation of electricity during 1951—61. Except Uttar Pradesh, all the three States had very low generating capacity in 1951. But the increased population of Uttar Pradesh (16.7% growth during the decade) has pulled down figure of increase in per capita generation. Each of the States—Assam, Rajasthan and Jammu and Kashmir shows a very low generating capacity in both the years—1951 and 1961. Assam State, which showed more than five fold increase in generating capacity during the decade, has not made any appreciable impact on the per capita generating capacity, partly because the 1951 total generation capacity was very low and partly because of very high growth rate of population (34.45%) during the decade. The same is the case with Rajasthan which doubled its total generation capacity and recorded an increase of 26.20% in population. For similar reasons, Jammu and Kashmir State also showed a very little increase in per capita generation of electricity (about 6.4 kwh.) in this decade.

The State of Mysore has shown negative figures of 12.96 kwh. of per capita generation. This has happened because the 1951 figures relate to the territorial jurisdiction of that state then existing, while the 1961 figures relate to the territorial set up after Reorganisation of States bringing in its fold more areas.

*Per capita generation for 1951 has been calculated on the basis of figures supplied by the Central Water & Power Commission, which relate to the old set up of areas of the States. For some States, however, the population figures are not exactly agreeing with 1951 Census count.

Source : Central Water and Power Commission (power wing)—Public Electricity Supply, All-India statistics, 1960-61, General Review.



PER CAPITA CONSUMPTION OF ELECTRICITY, 1961

Purpose : This map shows the per capita consumption of electricity in the year 1961 for the States and Union Territory of Delhi. The data for other Union Territories are not available separately.

Method : The per capita consumption of electricity from various sources has been calculated for all the States and the Union Territory of Delhi. Per capita consumption figures are then shown in the map by choropleth method by grouping the data into five ranges—two above, one nearer to and two below the National Average (31.81 kwh.) as shown in the legend to the map. In the centre of each State and the Union Territory of Delhi, circles are drawn in proportion to the total consumption of electricity.

Salient Features : The total power consumed in the year 1961 was 13,806.021 million kwh. and per capita consumption worked out to 31.81 kwh.

The highest per capita consumption of electricity was recorded in the Union Territory of Delhi (146.00 kwh.) followed by the States of West Bengal (71.28 kwh.) and Maharashtra (68.85 kwh.). Although in total consumption of electricity Maharashtra ranks first, in per capita consumption it comes next to West Bengal. Among the States, West Bengal leads in per capita consumption in spite of its very high density of population with heavy concentrations in the electrified industrial and mining cities and towns. In the case of Delhi, the level of per capita consumption is very high because more than two-thirds of its total population lives in the metropolitan city of Delhi and its contiguous rural parts which are electrified.

The States of Madras and Gujarat show per capita consumption of electricity under the range of (45.01 to 65.00 kwh.).

There are four States of which per capita consumption lies in the range (25.01—45.00 kwh.) which is nearer to the National Average. Among them, Mysore (39.70 kwh.) leads followed by Kerala (28.72 kwh.), Punjab (28.59 kwh.) and Orissa (27.80 kwh.). In total consumption of electricity, Kerala shows the minimum consumption figure (485.83 million kwh.) followed by Orissa, Punjab and Mysore in that order.

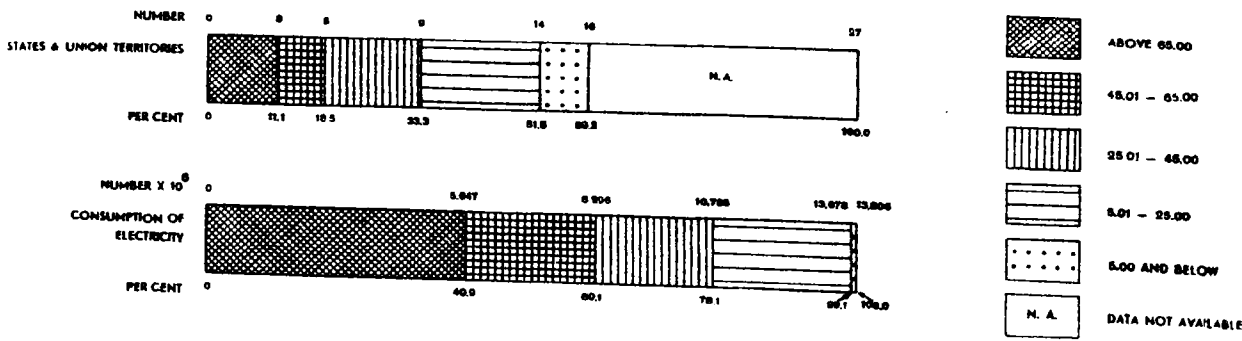
The States of Jammu and Kashmir, Uttar Pradesh, Madhya Pradesh, Bihar and Andhra Pradesh show per capita power consumption below the National Average falling in the range (5.01—25.00 kwh.). Although Uttar Pradesh stands next to Gujarat in total consumption of electricity but its per capita consumption lags far behind. The highest per capita consumption for this group is to be found in Bihar (22.74 kwh.) followed by Andhra Pradesh (15.88 kwh.), Jammu and Kashmir (14.25 kwh.), Uttar Pradesh (13.23 kwh.) and Madhya Pradesh (12.52 kwh.).

The States of Rajasthan and Assam show per capita power consumption under the lowest range (5.00 kwh. and below). Assam, in spite of its minerals, oil and hydel power potentials, could not generate power even at the level of Rajasthan. Its per capita consumption is the lowest (2.54 kwh.) in the country.

Sl. No.	State/Union Territory	Total population 1961	Total power consumed (Mkwh.) 1961	Per capita power consumed (kwh.) 1961
1	2	3	4	5
INDIA				
	...	433,952,273	13,806.021	31.81 (31.81)
STATES				
1	Andhra Pradesh	35,983,447	571.556	15.88 (15.88)
2	Assam	11,872,772	29.098	2.45 (2.45)
3	Bihar	46,455,610	889.205	22.74 (19.14)
4	Gujarat	20,633,350	983.638	47.70 (47.67)
5	Jammu and Kashmir	3,560,976	51.000	14.25 (14.32)
6	Kerala	16,903,715	485.830	28.72 (28.74)
7	Madhya Pradesh	32,372,408	405.700	12.52 (12.53)
8	Madras	33,686,953	1,665.143	49.49 (49.43)
9	Maharashtra	39,553,718	2,719.523	68.85 (68.76)
10	Mysore	23,586,772	934.950	39.70 (39.64)
11	Orissa	17,548,846	488.171	27.80 (27.82)
12	Punjab	20,306,812	580.299	28.59 (28.58)
13	Rajasthan	20,155,602	98.530	4.89 (4.89)
14	Uttar Pradesh	73,746,401	975.703	13.23 (13.23)
15	West Bengal	34,926,279	2,544.800	71.28 (72.86)
UNION TERRITORY				
1	Delhi	2,658,612	382.875	146.00 (144.01)

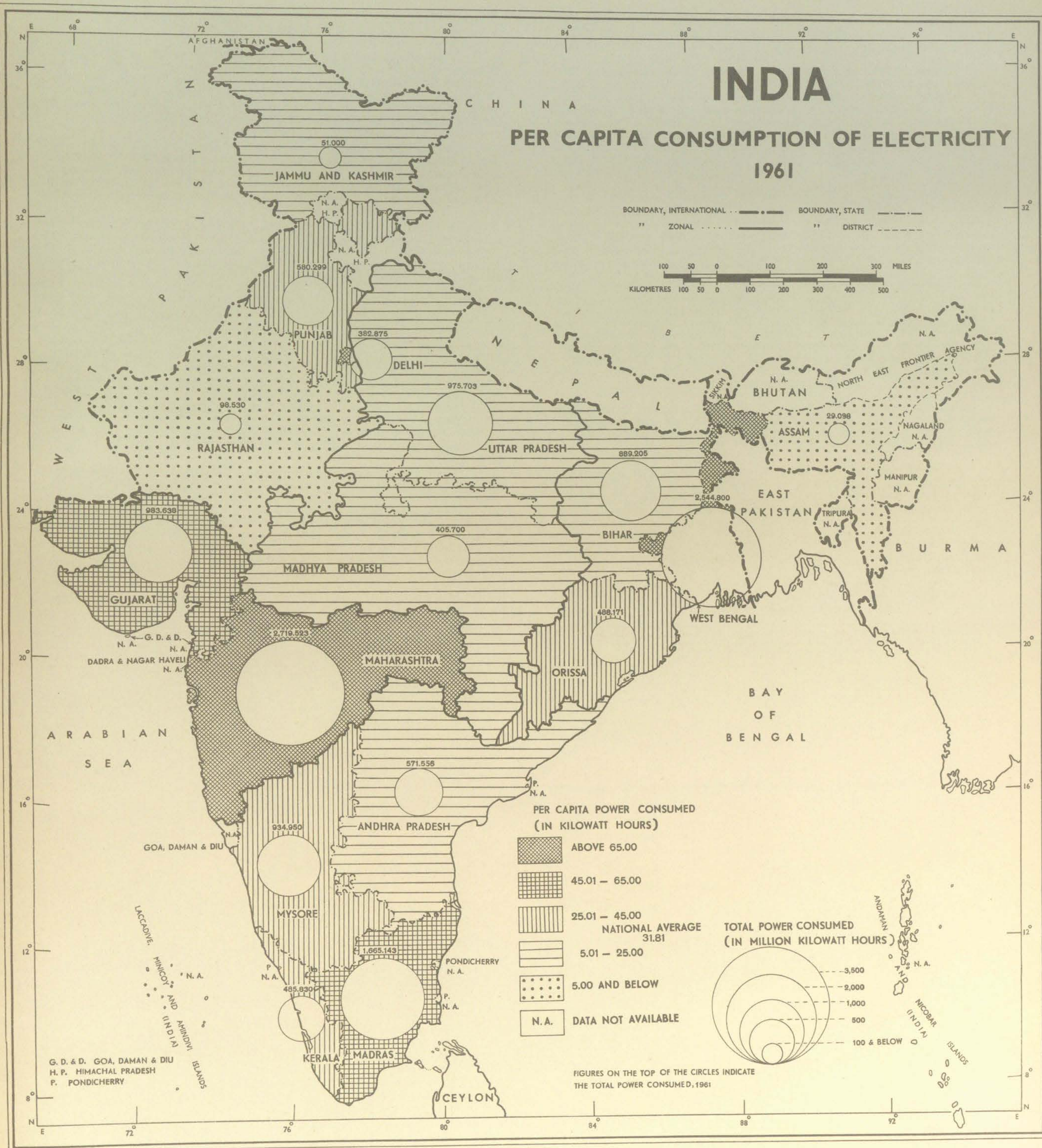
Note : Figures given within brackets in the last column show the per capita power consumed on the basis of population figures published in Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

Source : Central Water & Power Commission (Power Wing)—Public Electricity Supply—All-India Statistics, 1960-61, General Review.



INDIA

PER CAPITA CONSUMPTION OF ELECTRICITY 1961



INTERCENSAL CHANGE IN PER CAPITA CONSUMPTION OF
ELECTRICITY, 1951—61

Purpose : This map depicts the intercensal change in the per capita consumption of electricity during the decade 1951—61 for all the States and Union Territory of Delhi. Data for other Union Territories are not available.

Method : The intercensal change in per capita consumption of electricity for each of the States and Union Territory of Delhi are grouped into four categories—one above, one nearer to and two below the National Average (18·32 kwh). The States and Union Territory of Delhi are shaded from high to low according to the grouping of data as given in the legend. Two circles (broken and continuous lines) proportionate to the total electricity consumed in 1951* and 1961 are plotted one inside the other with a common base and the absolute figures for total consumption of electricity are given at the top of the circles.

Salient Features : The salient features depicted in the map are as follows : (i) except in the Union Territory of Delhi, the increase in per capita consumption of electricity in the country is low (no where exceeds 30 kwh. in the decade); (ii) most of the agrarian States show very small increase in per capita consumption of electricity during the decade and (iii) Orissa state shows a marked increase in per capita consumption.

The Union Territory of Delhi records the maximum increase—77·52 kwh. (113% over 1951) in per capita consumption of electricity during 1951—61. The total consumption of electricity increased by 2·2 times in this territory from 119·4 Mkwh. in 1951 to 382·9 Mkwh. in 1961. But per capita consumption increased by only 1·13 times because the population increased by 52·4% during the decade. In West Bengal, aggregate consumption of electricity increased by 1·5 times from 1,034·1 Mkwh. in 1951 to 2,544·8 Mkwh. in 1961 whereas per capita consumption increased only by about 71% because of the high increase (32·8%) of the State's population.

It is worthnoticing that Orissa shows a phenomenal increase in consumption of electricity from 5·1 Mkwh. in 1951 to 488·2 Mkwh. in 1961 due to the coming into being of a number of mining and industrial establishments using electricity.

The industrially developed States of Maharashtra and Gujarat as well as the agrarian States of Punjab, Madras, Andhra Pradesh and Bihar show an increase in per capita consumption of electricity by 15·01—25·00 kwh. in this decade. In Maharashtra and Gujarat States (together as separate data are not available for 1951), the total consumption increased by 1·3 times from 1,617·8 Mkwh. in 1951 to 3,703·2 Mkwh. in 1961. This high increase in aggregate consumption resulted in an increase in per capita consumption by 21·18 kwh. though the population of the two States (together) increased by 24·70% during 1951—61.

In Madras and Andhra Pradesh (together), the total consumption increased by 2·4 times over the decade, whereas the population showed

an increase of 13·8%. The per capita consumption increased by 23·55 kwh. in these two States (together) in the decade 1951—61.

The commissioning of Tungabhadra hydel project and extension of transmission network and the establishment of heavy industries, such as, Hindustan Air Craft Ltd., Bharat Electronics Ltd. etc., increased the total consumption of electricity in Mysore State by 1·5 times. Yet the decadal change in per capita consumption show a decrease of 1·35 kwh. Reasons for the decrease have been explained in Map 115.

In Bihar State, the electric grid system of Damodar Valley project and Bokaro thermal power project raised the aggregate consumption of electricity approximately 6·5 times from 118·6 Mkwh. in 1951 to 889·2 Mkwh. in 1961. The per capita consumption had also increased by about 19·79 kwh. in spite of an increase of 19·77% in the population during the decade 1951—61.

In Punjab, the construction of Bhakra-Nangal project has resulted in 4·7 times increase in aggregate consumption of electricity (from 102·6 Mkwh. in 1951 to 580·3 Mkwh. in 1961). The per capita consumption increased by 22·27 kwh., though the population of the State recorded an increase of 25·86% during the decade 1951—61.

The States of Kerala, Uttar Pradesh, Madhya Pradesh and Jammu and Kashmir show an increase in per capita consumption ranging between 5·01 & 15·00 kwh. In Kerala, the total consumption of electricity increased by 2·1 times from 156·9 Mkwh. in 1951 to 485·8 Mkwh. in 1961, while the population increased by 24·75%. In Uttar Pradesh, the total consumption doubled itself from 457·9 Mkwh. in 1951 to 975·7 Mkwh. in 1961, while population increased by 16·66%. In Madhya Pradesh, the total consumption increased by 3·9 times from 82·4 Mkwh. to 405·7 Mkwh. in 1961. In Jammu and Kashmir State (1951 and 1961), the total consumption was small, though it increased by 1·9 times (51·0 Mkwh. in 1961). In all these States, there was a corresponding increase in population ranging between 9% and 25% which has diffused the increase in per capita consumption of electricity.

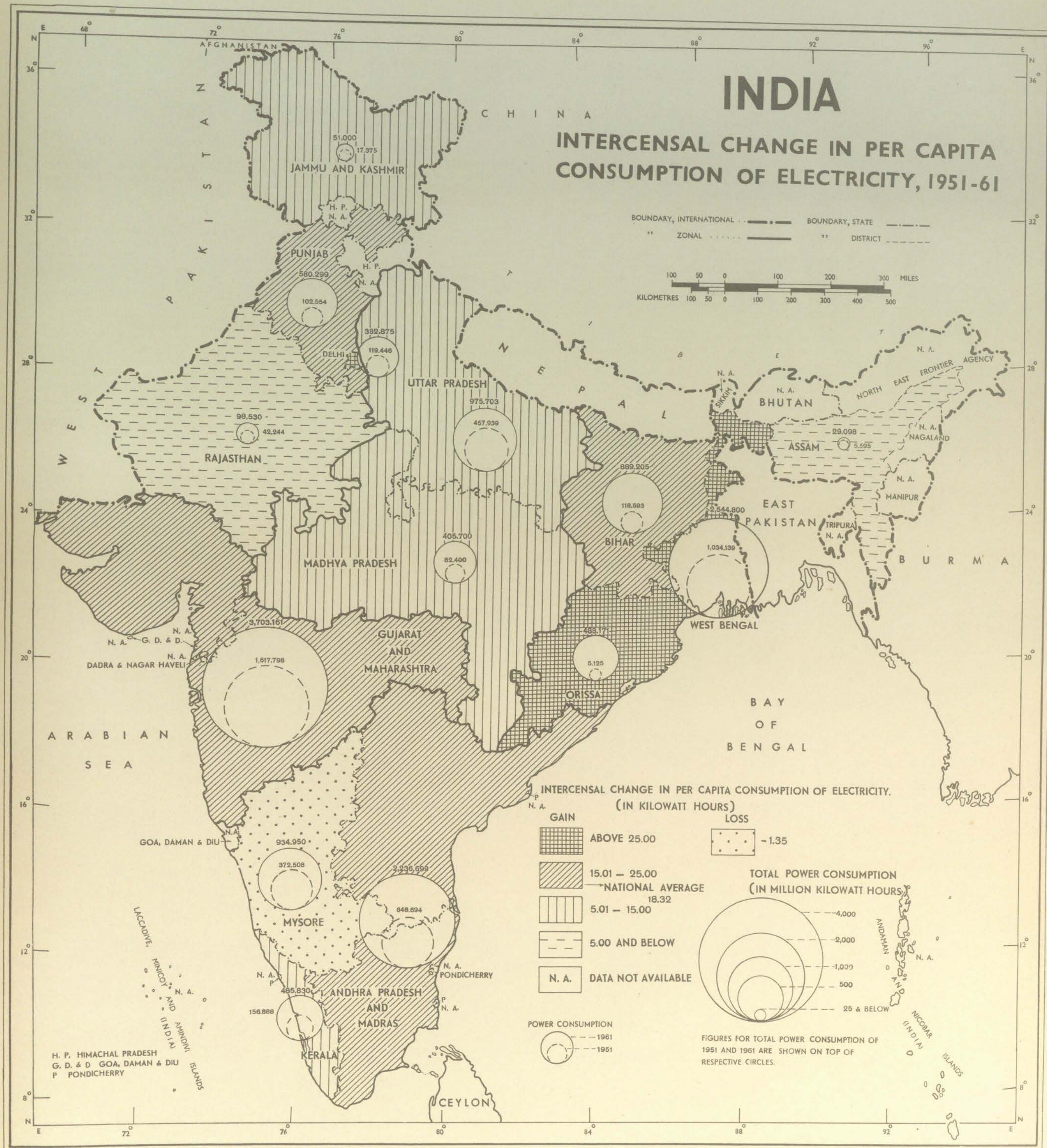
The States of Assam and Rajasthan show a very small increase in per capita consumption—5 kwh. and below. Assam State had a per capita consumption of 0·58 kwh. in 1951 and 2·45 kwh. in 1961, showing an increase of only 1·87 kwh. in per capita consumption during the decade. Rajasthan State also shows per capita consumption as low as 2·76 kwh. in 1951 which increased to 4·89 kwh. in 1961. The net increase in per capita consumption in the decade was 2·13 kwh. in Rajasthan. Though, the total consumption increased by 4·2 times in Assam and 1·3 times in Rajasthan during the decade, the increase in per capita consumption was very low—not only because of the low level of total consumption in both the years 1951 and 1961 but also due to the increase in population by 34·5% and 26·2% respectively in these two States.

* Per capita consumption for 1951 has been calculated on the basis of the figures supplied by the Central Water & Power Commission, which relate to the old set up of area of States. For some States, however, the population figures are not exactly agreeing with 1951 Census count.

Source : Central Water & Power Commission (Power Wing)—Public Electricity Supply—All-India Statistics, 1960-61—General Review.

INDIA

INTERCENSAL CHANGE IN PER CAPITA CONSUMPTION OF ELECTRICITY, 1951-61



MAP 118

DISTRIBUTION OF ELECTRIFIED AND NON-ELECTRIFIED TOWNS WITH POPULATION 20,000 AND ABOVE, 1961

Purpose : This map depicts the distribution of electrified and non-electrified towns having population 20,000 and above in India in 1961.

Method : Towns with population 20,000 and above are classified into three categories, viz., Class I (above 1,00,000), Class II (50,000—99,999) and Class III (20,000—49,999). The towns of these three categories are shown by circles of three different sizes as given in the legend of the map. The electrified towns are shown by hollow circles while the non-electrified ones by solid black circles. The details of Calcutta Industrial Region have been shown in an inset map (Marked 'A').

Salient Features : The total number of towns having population 20,000 and more are 764, of which 107 are class I towns, 139 class II and 518 class III. Except 8 in class III, all these towns are electrified.

The electrified towns with population 20,000 and above are distributed mostly in the northern plain, coastal areas and southern peninsula.

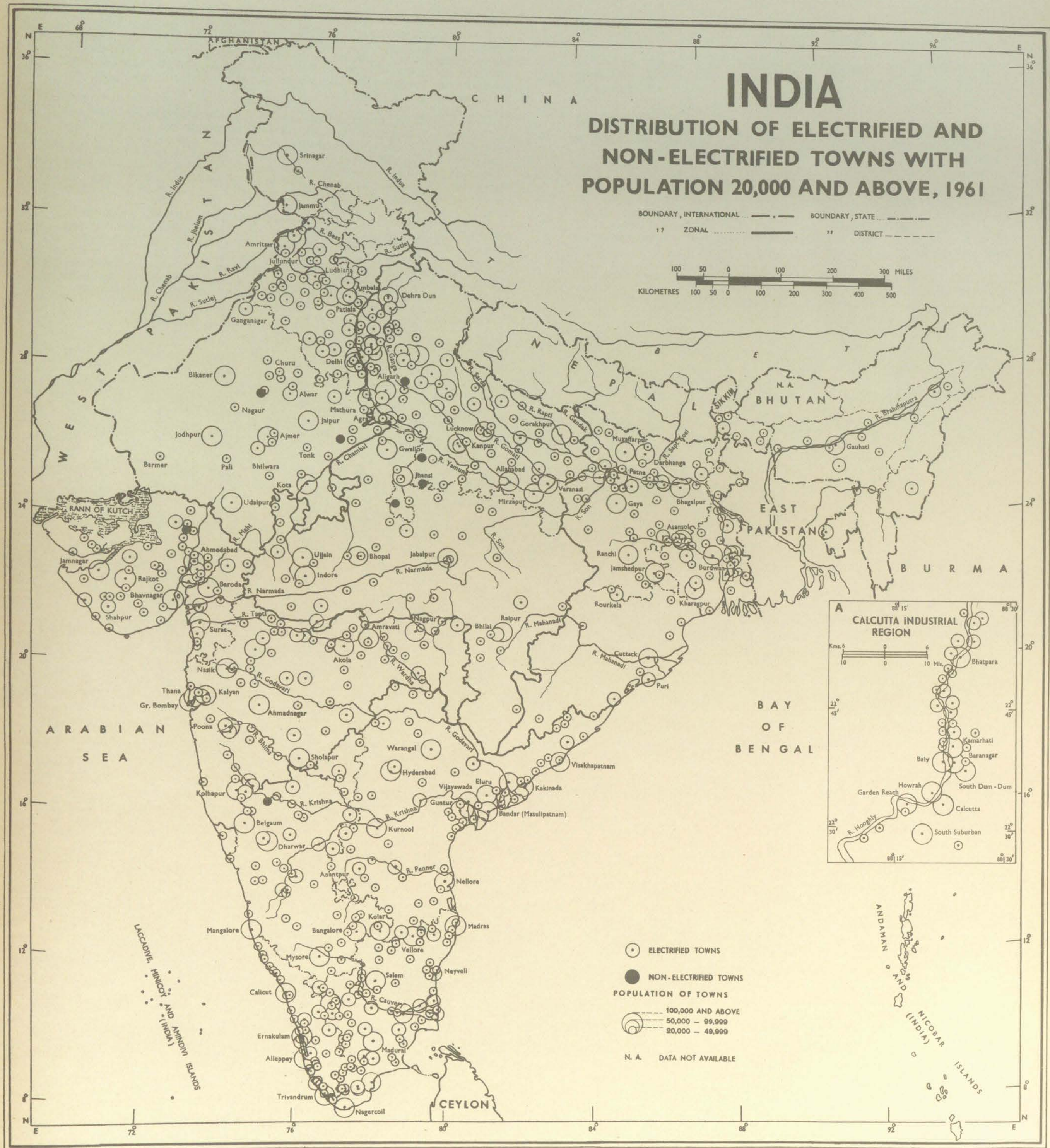
About 50% of the 107 towns belonging to Class I are located in four States, viz., Uttar Pradesh (17), West Bengal (12), Maharashtra (12) and Andhra Pradesh (11). The other cities are located in Madras (9), Bihar (7), 6 each in Gujarat, Madhya Pradesh, Mysore and Rajasthan, 5 in Punjab, 4 in Kerala, 2 each in Jammu and Kashmir and Delhi Union Territory and 1 each

in Assam and Orissa States.

The towns having population between 50,000 and 99,999 are 139 in number. All of them are electrified. They are mostly concentrated in the northern plain and southern part of the peninsula. West Bengal and Madras have the maximum number (19 each) of these towns followed by Uttar Pradesh (18), Maharashtra (15), Punjab (12), Andhra Pradesh, Gujarat and Mysore (9 each), Bihar (7), Madhya Pradesh (6), Kerala (5), Rajasthan (4), Orissa (3), Assam (2) and one each in Manipur and Tripura.

In India, Class III towns (20,000—49,999) number 518. They are scattered all over the country but their occurrence is marked in four regions, viz., (i) N.W. India, Upper Ganga-Yamuna *doab* and southern Punjab plain; (ii) Southernmost part of the peninsula; (iii) Hooghly basin and (iv) Gujarat plains. Their statewide distribution is, 61 in Madras, 56 in Uttar Pradesh, 51 in Andhra Pradesh, 47 in Maharashtra, 46 in West Bengal, 43 in Gujarat, 35 each in Madhya Pradesh and Punjab, 34 in Mysore, 33 in Bihar, 31 in Kerala, 23 in Rajasthan, 10 in Assam, 8 in Orissa, 2 in Pondicherry and 1 each in Jammu and Kashmir, Delhi and Goa, Daman & Diu. Of the 8 of these 518 Class III towns, which are not electrified, 7 are in north-western India, viz., Mau Ranipur, Konch, Lalitpur and Sahaswan in Uttar Pradesh, Gangapur and Ladnu in Rajasthan and Unjha in Gujarat. There is only one town in southern India (Rabkavi-Banhatti in Mysore) which is not electrified.

Source : Data supplied by Superintendents of Census Operations.



MAP 119

DISTRIBUTION OF ELECTRIFIED AND NON-ELECTRIFIED TOWNS WITH POPULATION BELOW 20,000, 1961

Purpose : The map shows the distribution of electrified and non-electrified towns having population below 20,000 during 1961 in India.

Method : The towns having population below 20,000 are shown by circles of uniform radii. Non-electrified towns are shown by solid black circles to differentiate them from electrified towns which are represented by hollow circles.

Salient Features : During 1961, there were 1,936 towns in India having population below 20,000. Out of these, 1,614 towns were electrified and 322 towns were non-electrified.

It is evident from the map that the towns of the southern zone are mostly electrified. Out of 152 towns in Andhra Pradesh only 5 are non-electrified. Similarly, out of 250 towns in Madras only 3 are non-electrified. 45 towns are electrified against 7 non-electrified in Kerala. There are 182 towns in this group in Mysore and 29 of them are non-electrified. All the three towns in this group in Pondicherry are electrified. The towns in this zone have the advantage of hydel power being generated.

The eastern zone, being located within the country's most important coal-field belts had the initial advantage of urban electrification. Recent development of hydel power in this area through the Damodar Valley Project,

Mahanadi (Hirakud) Project etc. has helped extension of electrification of many towns in this zone. Statewise distribution indicates that 3 out of 50 towns in Orissa, 22 out of 47 towns in Assam, 14 out of 107 in West Bengal, 2 out of 106 in Bihar, 1 out of 3 in Tripura and 2 out of 3 in Nagaland are non-electrified. The only towns in Andaman and Nicobar Islands (Port Blair) and SIKKIM (Gangtok) are of course electrified and there are no urban centres in Manipur in this group.

The northern zone is located far away from the country's coal-field belts. But recently developed hydel power in Bhakra-Nangal has electrified many towns in Punjab, Delhi and Himachal Pradesh areas. The map indicates that 11 in Jammu and Kashmir (out of 40); 10 in Punjab (out of 137) and 56 in Rajasthan (out of 112) are non-electrified towns. All but only one town having population below 20,000 in Himachal Pradesh are electrified. All the towns of the Union Territory of Delhi are electrified.

In the western zone, 53 out of 192 towns in Maharashtra; 29 out of 123 towns in Gujarat and 4 out of 12 in Goa, Daman and Diu are non-electrified towns. The towns of the Ghat areas are mostly served by hydel power.

In the central zone, Madhya Pradesh has 172 towns in this group and 27 of them are non-electrified. In Uttar Pradesh 43 towns having population below 20,000 are non-electrified against 133 electrified towns.

Source : Data supplied by Superintendents of Census Operations.



PROPORTION OF RURAL POPULATION LIVING IN
ELECTRIFIED VILLAGES, 1961

Purpose : This map depicts the districtwise distribution of rural population living in electrified villages in the country during 1961.

Method : The proportions of rural population living in electrified villages to total rural population in different districts are calculated and are grouped into six categories—two above, one nearer to and three below the National Average (13.34%). These categories are shown in the map by different grades of hatchings by choropleth method as given in the legend to the map. The districts which are entirely urban are marked by the abbreviation 'E.U.' and the districts with no electrified villages are left blank. Data for Sikkim, the State of Assam and the Union Territories of Dadra and Nagar Haveli and Laccadive, Minicoy and Amindivi Islands are not available.

Salient Features : Rural electrification in India, on the whole, is far from satisfactory. Only 13.34% of total population of the country lives in electrified villages. The map reveals the following characteristics :—i) southern part of the Peninsula, western districts of Uttar Pradesh and northern part of Punjab show a high proportion of rural population living in electrified villages; ii) a moderately high proportion of rural population living in electrified villages can be observed in northern districts of eastern Uttar Pradesh, Punjab plain, northern part of Bihar, Calcutta Industrial Region, the State of Gujarat, Vidarbha Region of Maharashtra and Telangana Plateau.

The highest proportion of rural population (above 15.00%) living in electrified villages is concentrated mainly in the southern part of the country. The States of Kerala and Madras, southern part of Mysore (10 districts), Rayalaseema Plateau (4 districts), Coastal districts (6) of Andhra Pradesh

are forming one compact region of high percentages. The high proportion of rural electrification is mainly due to the development of hydro power and thermal power in these areas.

A moderately high proportion (3.01% to 15.00%) of rural population living in electrified villages is noticed in the Telangana Plateau (9 districts), Vidarbha Region of Maharashtra (5), the State of Gujarat (9), Bihar Plain (9), Punjab Plain (9), Ganga-Bhagirathi Delta (4) and eastern and western districts of Uttar Pradesh. Besides, the Union Territories of Manipur, Tripura and Himachal Pradesh (4 districts only) also fall in this category.

The proportion of rural population living in electrified villages is below 3.01% in the northern part of Mysore (5 districts), southern Maharashtra (7), the States of Orissa (12), Madhya Pradesh (23) and Rajasthan (12), southern districts of Bihar (3), northern districts of West Bengal (4), the central part of Uttar Pradesh (14) and the Union Territories of Andaman and Nicobar Islands and Goa, Daman and Diu. Majority of the areas are devoid of coal fields and hydro power plant. There are no big power projects functioning in the States of Madhya Pradesh and Rajasthan. It is, however, significant to note that Orissa and southern Bihar which are very close to the coal fields and having perennial rivers, like Mahanadi and Damodar, have very small proportion of electrified villages.

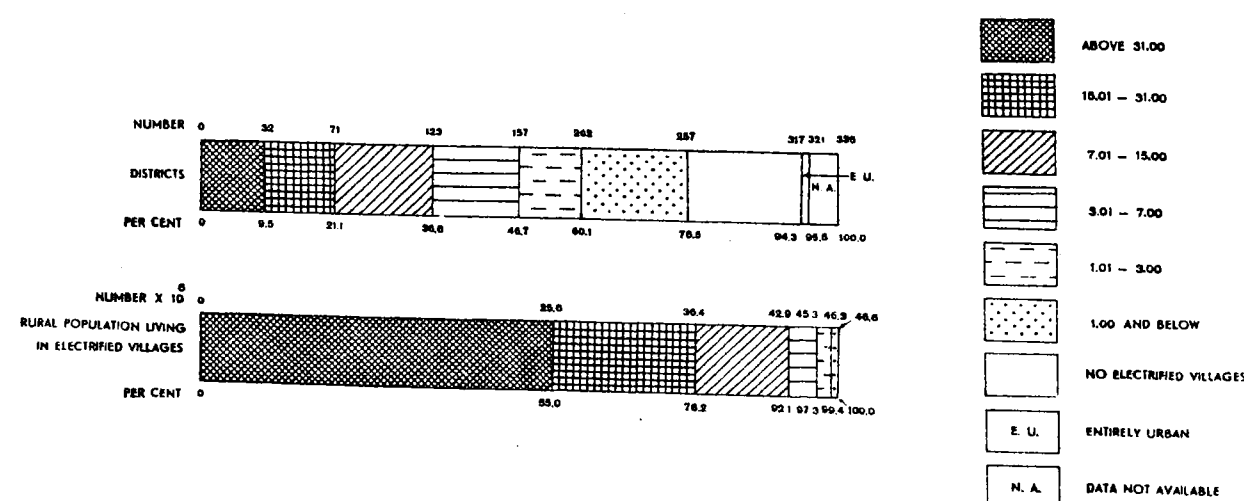
There are 60 districts which do not have even a single electrified village. The maximum number of districts are in Madhya Pradesh (16) followed by Rajasthan (13) and Uttar Pradesh (11) and the remaining in other States. Even Maharashtra, a progressive State, has seven districts with non-electrified villages.

Sl. No.	State/Union Territory	Rural population 1961	Rural population living in electrified villages 1961	Proportion of rural population living in electrified villages to rural population, 1961
1	2	3	4	5
	INDIA	349,087,819*	46,585,759	13.34
	STATES			
1	Andhra Pradesh	29,708,939	7,076,516	23.82
2	Assam		Data not available	
3	Bihar	42,541,690	2,578,136	6.06
4	Gujarat	15,316,726	1,523,089	9.94
5	Jammu and Kashmir	2,967,661	179,716	6.06
6	Kerala	14,349,574	8,755,055	61.01
7	Madhya Pradesh	27,745,174	304,970	1.10
8	Madras	24,696,425	11,739,971	47.54
9	Maharashtra	28,391,157	1,452,903	5.12
10	Mysore	18,320,279	2,562,870	13.99
11	Orissa	16,439,196	244,097	1.50
12	Punjab	16,218,217	3,301,217	20.35
13	Rajasthan	16,874,124	108,257	0.64
14	Uttar Pradesh	64,266,506	4,618,995	7.19
15	West Bengal	26,385,437	1,613,078	6.11
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	49,473	1,000	2.02
2	Delhi	299,204	73,549	24.58
3	Himachal Pradesh	1,287,216	88,606	6.88
4	Laccadive, Minicoy and Amindivi Islands		Data not available	
5	Manipur	712,320	65,400	9.18
6	Tripura	1,039,008	94,238	9.07
7	Dadra and Nagar Haveli		Data not available	
8	Goa, Daman and Diu		Data not available	
9	Pondicherry	512,810†	8,681	1.65
10	North-East Frontier Agency	280,082	174,767	53.58
11	Nagaland	336,558	8,952	2.68
12	SIKKIM	350,043	11,696	3.34
			Data not available	

Note : * National Average has been calculated after excluding the population of Assam, L. M. and A. Islands, Dadra and Nagar Haveli, Sikkim and Daman of Goa, Daman and Diu for which data relating to rural population living in electrified villages are not available.

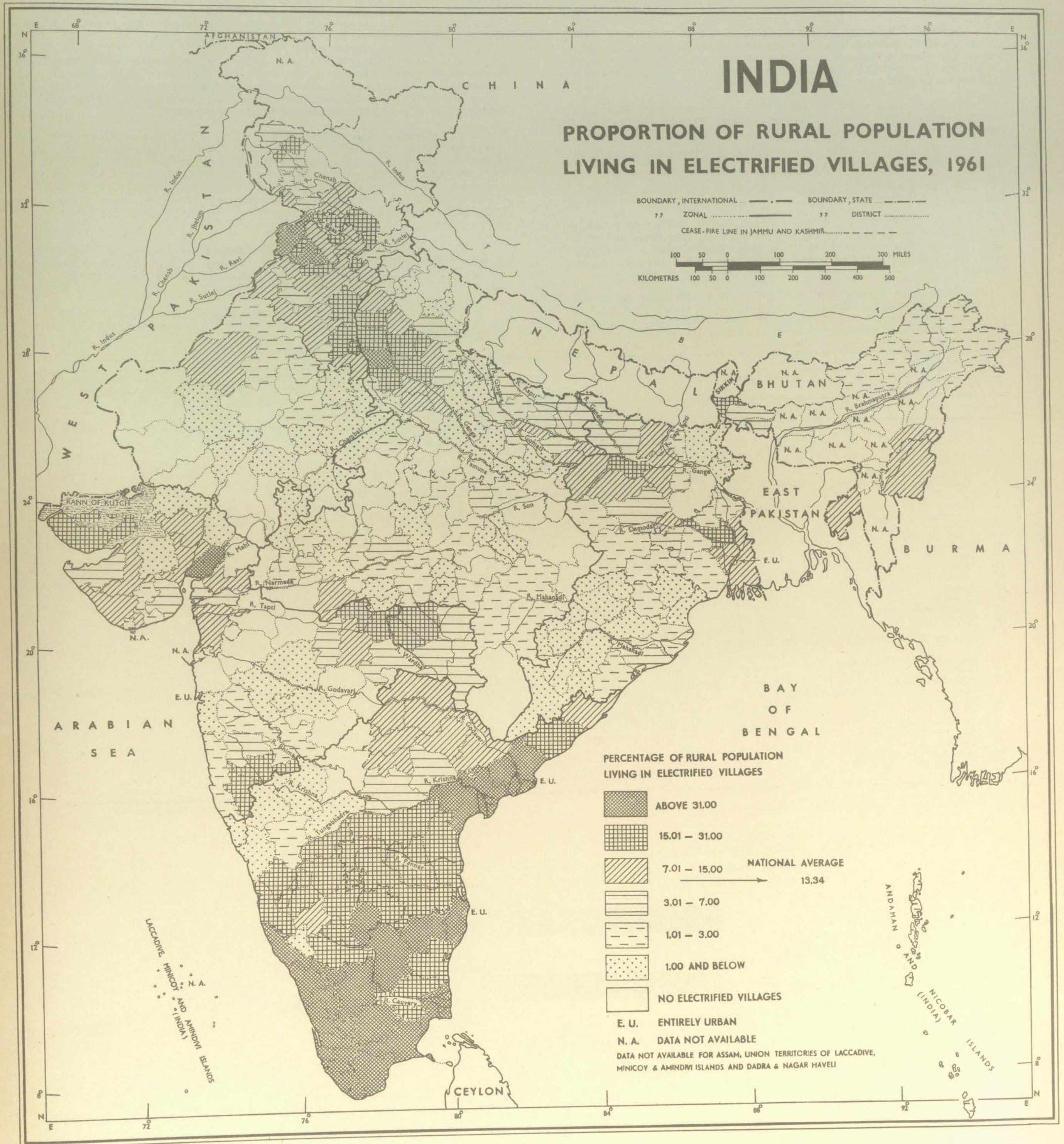
† Excludes population of Daman as the figures relating to rural population living in electrified villages are not available.

Source : 1 Data Supplied by Superintendents of Census Operations
2 Data supplied by State Electricity Boards.



INDIA

PROPORTION OF RURAL POPULATION LIVING IN ELECTRIFIED VILLAGES, 1961



PROPORTION OF URBAN POPULATION LIVING IN ELECTRIFIED TOWNS, 1961

Of the 4 districts where the entire urban population lives in non-electrified towns, three lie in the eastern hills and plateaus of the country and one in the hill area of Uttar Pradesh.

Source : 1 Data supplied by the Superintendents of Census Operations.
2 State Electricity Boards.



INDIA

PROPORTION OF URBAN POPULATION LIVING IN ELECTRIFIED TOWNS, 1961



Transport and Communications

**PERCENTAGE OF WORKERS ENGAGED IN CONSTRUCTION,
TRANSPORT AND COMMUNICATION ACTIVITIES TO
TOTAL WORKERS IN RURAL AREAS, 1961**

Purpose : This map depicts the districtwise percentage of workers engaged in construction, transport and communication activities to total workers in rural areas in 1961.

Method : The districtwise percentage figures are grouped into six ranges—two above, one nearer to and three below the National Average (1.23%). According to these ranges all the districts are shaded by choropleth method as shown in the legend to the map. Abbreviation 'E.U.' is used for entirely urban areas.

Salient Features : This map reveals that the rural areas of India are still lagging behind in certain economic activities, like construction, transport and communications. In 1961, out of 162 million workers in the rural areas nearly 2 millions or only 1.23% of the total workers are engaged in construction, transport and communication activities.

The areas which exhibit a relatively high percentage (above 1.51%) of rural workers engaged in construction, transport and communication activities to total rural workers are those where post independence development has taken place resulting in the economic progress in the form of construction work—buildings, roads, bridges, railways, irrigation-canal and power stations etc. In the country, the district of Lahaul & Spiti in Punjab exhibits the highest percentage (23.35%) of rural workers engaged in construction, transport and communication activities to total rural workers followed by North-East Frontier Agency (9.87%). Similarly, the western districts of Punjab—Gurdaspur, Amritsar, Ferozepur etc.; Ganganagar district of Rajasthan and Kutch district of Gujarat show a comparatively high proportion of workers (Above 2.50%). The construction of Rajasthan Canal, Bhakra—Nangal Dam and some roads have opened up avenues for the employment of the rural population in these fields.

A continuous belt stretching from Surat district of Gujarat to Kanyakumari district of Madras along the west coast shows higher proportion of

rural workers who are engaged in these activities (above 1.51%) than the National Average.

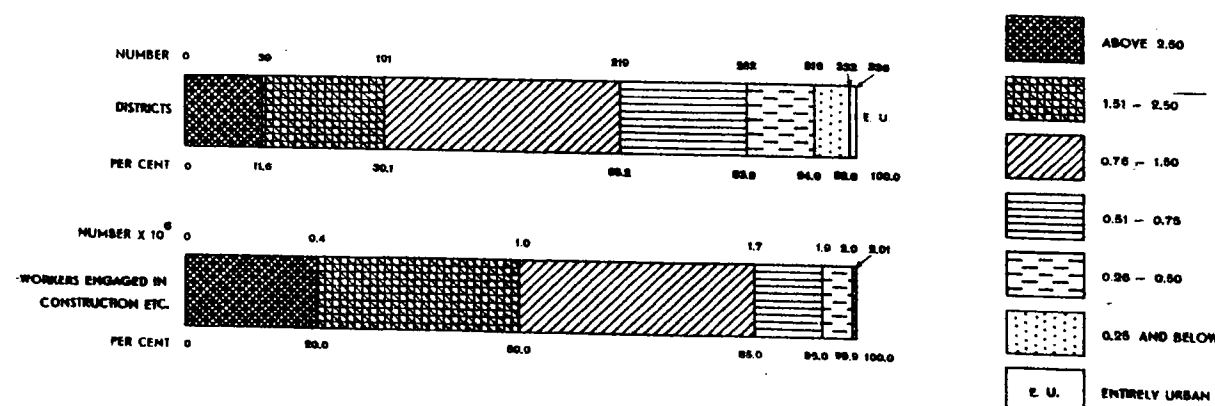
The areas having less than 1.51% of rural workers engaged in construction, transport and communication activities are the Upper Ganga-Yamuna *doab*, northern districts in Uttarakhand Division lying along the border; the districts of Varanasi, Jhansi and Mirzapur in Uttar Pradesh; northern and southern districts of West Bengal; the Upper Assam Valley; the districts of Morena, Hoshangabad and Indore of Madhya Pradesh; Patna, Monghyr, Dhanbad and Singhbhum of Bihar; Cuttack of Orissa; Parbhani of Maharashtra and Nilgiri and Chingleput of Madras.

Nearly whole of the Peninsular Plateau comprising Maharashtra Plateau, Karnataka Plateau of Mysore, Telangana Plateau of Andhra Pradesh and Tamilnad Uplands; the north and south Central Highlands comprising eastern Rajasthan and Madhya Pradesh; Kashmir Valley and Ladakh; southern Punjab Plains; Ganga Plain (Uttar Pradesh, Bihar and West Bengal); Assam; Manipur and Tripura show the proportion of rural workers engaged in construction, transport and communication activities to the total rural workers nearer to the National Average (1.23%).

The proportion of workers in these activities decreases in the rugged and forested hilly regions. These areas lie mostly in Orissa State, western parts of Vindhyas and Satpura Ranges in Madhya Pradesh, the Aravalli Range and the western arid districts of Rajasthan, Nagaland and the western districts of Jammu and Kashmir State. Most of these areas are inhabited by tribal people. The districts which show a very low proportion of rural workers engaged in these activities are Banswara, Dungarpur and Jaisalmer (Rajasthan); Dhenkanal and Bolangir (Orissa); Sidhi (Madhya Pradesh); Mokokchung, Tuensang and Kohima (Nagaland) and Poonch, Udhampur and Doda (Jammu and Kashmir). Garo Hills in Assam and Sambalpur district in Madhya Pradesh show the lowest proportion (0.08% and 0.10% respectively) of rural workers engaged in these activities to total rural workers.

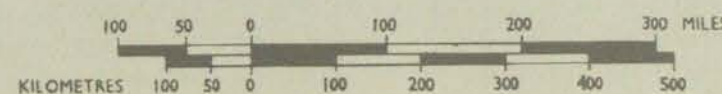
Sl. No.	State/Union Territory	Total rural workers 1961	Total rural workers in construction, transport and communications 1961	Percentage of rural workers in construction, transport and communications to total rural workers, 1961
1	2	3	4	5
	INDIA	162,245,566	1,989,238	1.23
	STATES			
1	Andhra Pradesh	16,404,772	194,056	1.18
2	Assam	4,799,615	63,832	1.33
3	Bihar	17,934,321	186,979	1.04
4	Gujarat	6,886,092	98,176	1.43
5	Jammu and Kashmir	1,344,566	8,344	0.62
6	Kerala	4,875,201	151,829	3.11
7	Madhya Pradesh	15,312,447	119,275	0.78
8	Madras	12,257,938	154,565	1.20
9	Maharashtra	14,881,954	193,650	1.34
10	Mysore	8,932,742	112,391	1.26
11	Orissa	7,245,211	33,718	0.47
12	Punjab	5,867,044	122,220	2.08
13	Rajasthan	8,591,778	77,135	0.90
14	Uttar Pradesh	25,915,749	268,150	1.03
15	West Bengal	8,619,911	146,730	1.70
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	25,014	4,184	1.67
2	Delhi	107,636	5,002	4.64
3	Himachal Pradesh	781,408	14,271	1.83
4	Laccadive, Minicoy and Amindivi Islands	12,449	383	3.07
5	Manipur	330,351	3,317	1.00
6	Tripura	408,993	5,479	1.34
7	Dadra and Nagar Haveli	34,794	419	1.14
8	Goa, Daman and Diu	223,587	16,018	7.16
9	Pondicherry	112,138	4,530	4.04
10	North-East Frontier Agency	26,164	2,582	9.87
11	Nagaland	212,461	370	0.17
12	Sikkim	101,230	1,633	1.61

Source : Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.

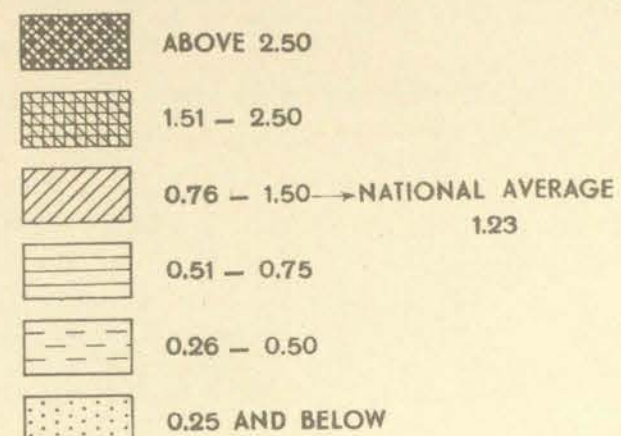


INDIA

PERCENTAGE OF WORKERS ENGAGED IN CONSTRUCTION, TRANSPORT AND COMMUNICATION ACTIVITIES TO THE TOTAL WORKERS IN RURAL AREAS 1961



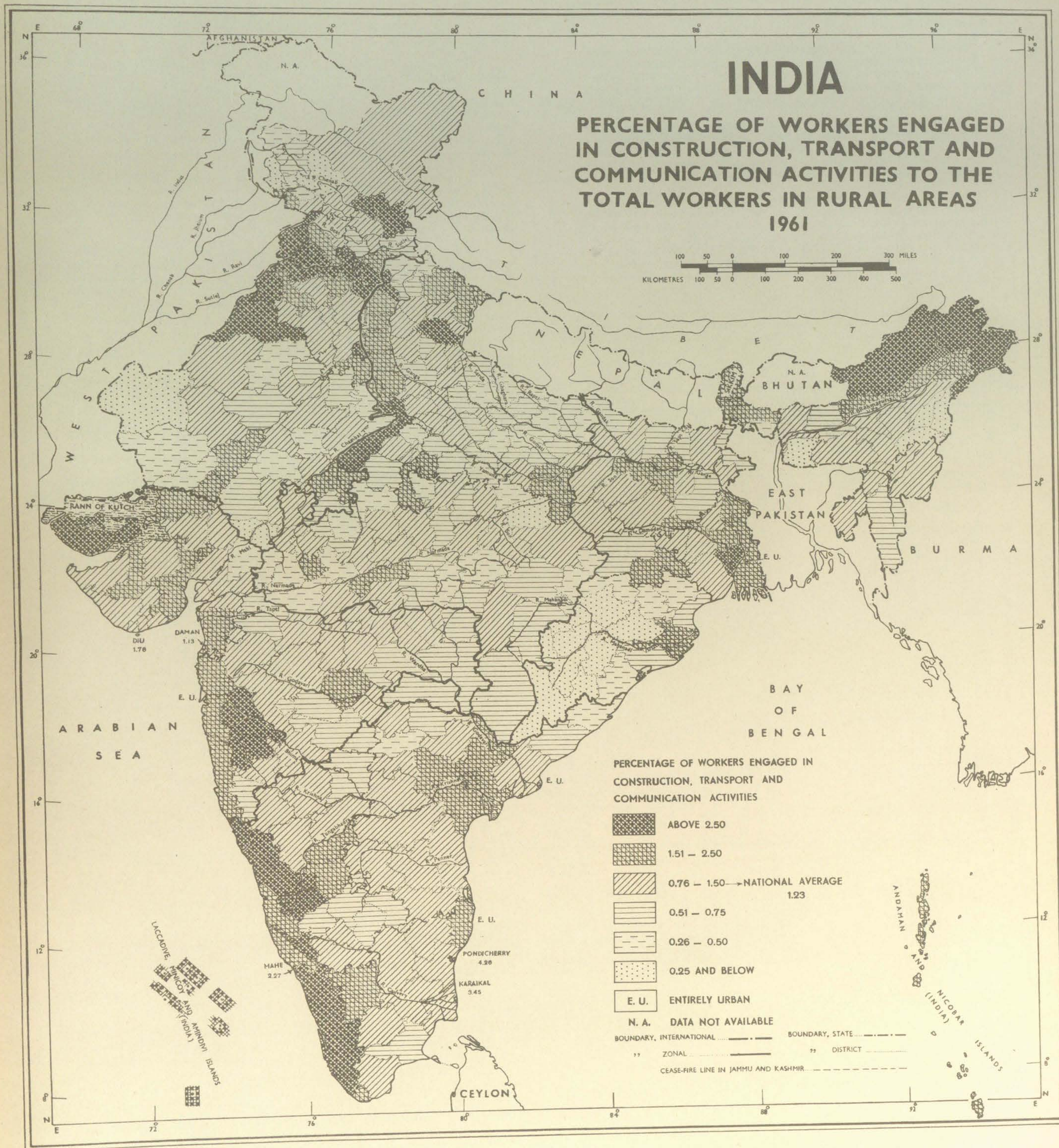
PERCENTAGE OF WORKERS ENGAGED IN CONSTRUCTION, TRANSPORT AND COMMUNICATION ACTIVITIES



E. U. ENTIRELY URBAN

N. A. DATA NOT AVAILABLE

BOUNDARY, INTERNATIONAL BOUNDARY, STATE
" ZONAL " DISTRICT
CEASE-FIRE LINE IN JAMMU AND KASHMIR



MAP 123

PERCENTAGE OF WORKERS ENGAGED IN CONSTRUCTION, TRANSPORT AND COMMUNICATION ACTIVITIES TO TOTAL WORKERS IN URBAN AREAS, 1961

Purpose : This map shows the distribution of the workers engaged in construction, transport and communication activities to total workers in urban areas in 1961.

Method : The districtwise percentage figures are arranged in six categories—three above, one nearer to and two below the National Average (11.69%). According to these ranges all the districts are shaded as shown in the index of the map. Entirely rural areas are represented on the map with abbreviation 'E.R.'.

Salient Features : This map in conjunction with the previous one (Map No. 122) will at once reveal that urban areas employ more people in construction, transport and communications than the rural areas. Out of 26 million workers in urban areas about 3.1 million (11.7%) workers are engaged in these activities as compared to 1.2% in rural areas.

In urban areas, the construction work is rather a usual phenomenon. Under the projects and plans of developing new industries, new housing schemes, extension of roads etc.; construction work offers employment to the urban population. Transport and communications which play a vital role in urban life also employ people in large number. The regions where new towns have sprung up as a result of various developmental schemes, the percentage of workers engaged in transport, construction and communications in urban areas is high.

The proportion of workers engaged in the aforesaid activities is the highest (39.14%) in the district of Nalgonda in Andhra Pradesh followed by Shimoga district (33.61%) in Mysore and Andaman & Nicobar Islands (26.88%). Districts having towns which serve as transport junctions record comparatively a very high proportion (Above 18.00%) of urban workers engaged in these activities. These districts are, Hoshiarpur and Ambala in Punjab; Ajmer, Bikaner, Kota, Sirohi and Jodhpur in Rajasthan; Midnapore

and Purulia in West Bengal; Kamrup, Nowgong and United Mikir and North Cachar Hills in Assam; Jhansi, Mirzapur and Gorakhpur in Uttar Pradesh; Hoshangabad, Sehore and Mandla in Madhya Pradesh and Bilaspur in Himachal Pradesh etc.

The districts which fall in the next range of 15.01—18.00% are Jaipur, Udaipur (Rajasthan); Kutch (Gujarat); Mandsaur, Ratlam, Betul, Surguja, Bilaspur, Jabalpur and Durg (Madhya Pradesh); Sundargarh, Sambalpur and Keonjhar (Orissa); Santal Parganas (Bihar) etc. A similar high proportion of workers is visible in the districts of Bareilly, Lucknow and Allahabad (Uttar Pradesh); Malda and Burdwan (West Bengal); Cachar (Assam); Krishna and Visakhapatnam (Andhra Pradesh); Nagpur (Maharashtra) and Ernakulam (Kerala).

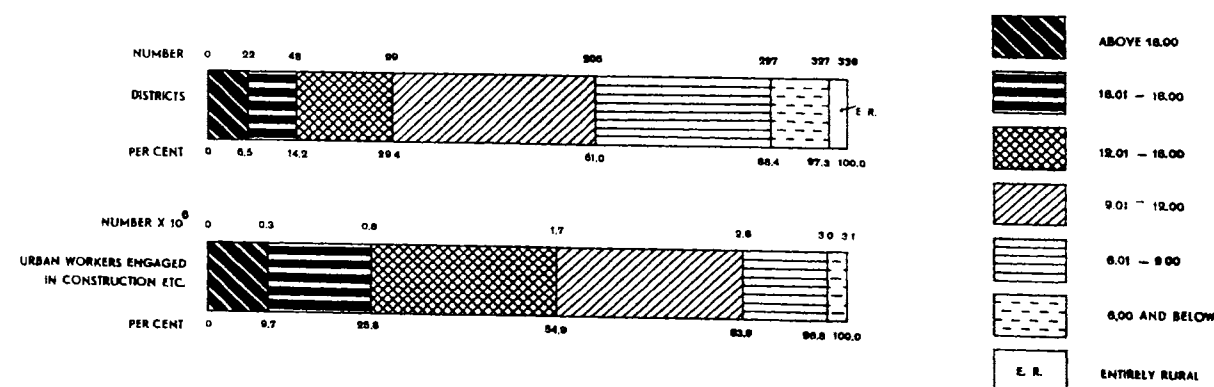
The districts falling under the medium range of percentage (12.01% to 15.00% and 9.01% to 12.00%) are scattered all over the country. They are more numerous in Punjab, Uttar Pradesh, Mysore, Maharashtra, Gujarat, Andhra Pradesh and Madhya Pradesh States and fewer in Jammu and Kashmir, Kerala, Assam and Orissa States.

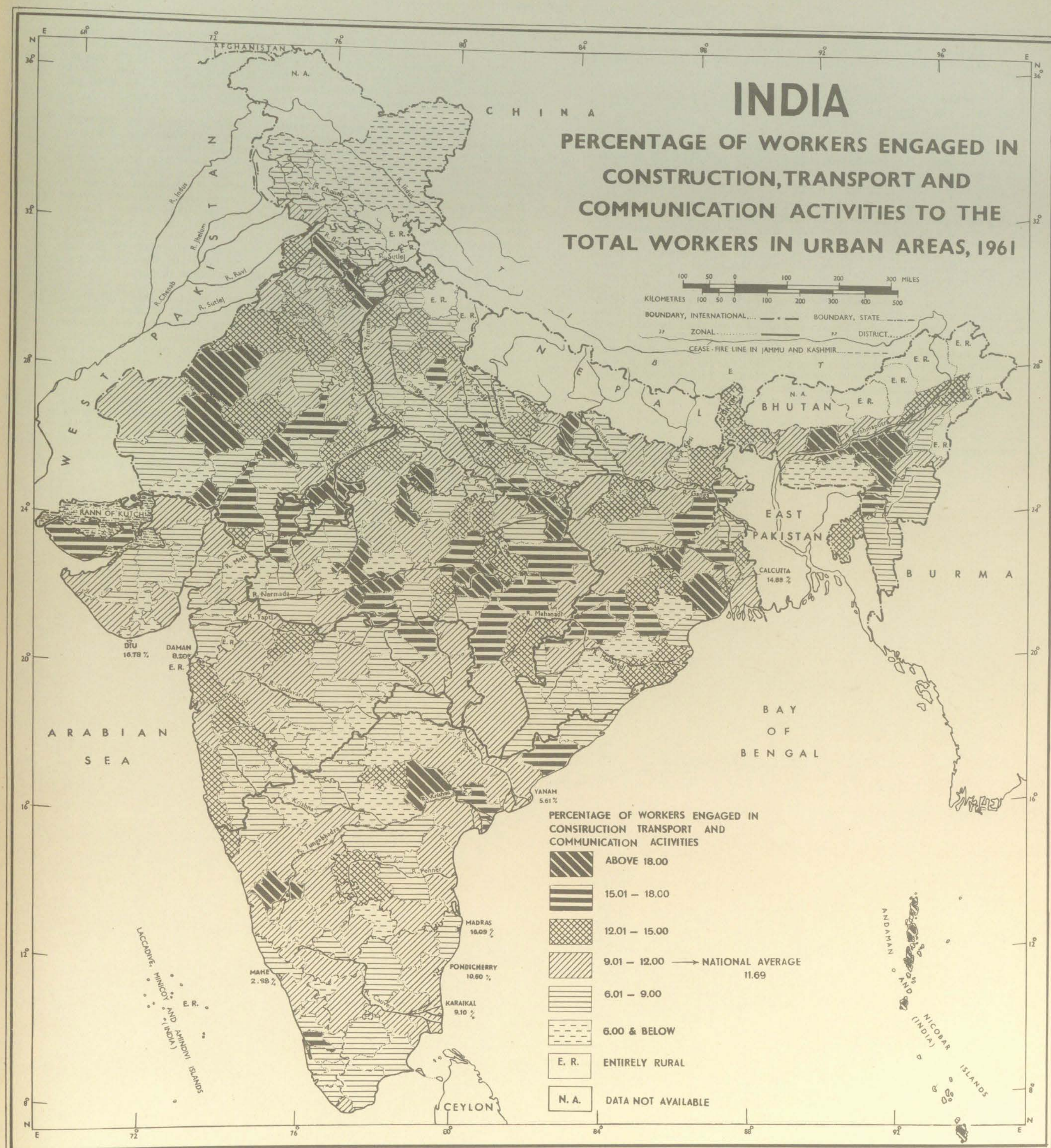
The proportion of workers engaged in these activities declines (6.01—9.00%) as one goes to the southern districts of Orissa, southern Rajasthan, Western districts of Jammu and Kashmir, eastern districts of Maharashtra Plateau and Manipur which are still under urbanised and underdeveloped in transport and communication facilities. The other areas which fall in this range are central Uttar Pradesh, southern districts of Maharashtra, Madras and Kerala and the Gujarat Plains.

A very low percentage (6.00% and below) of urban workers engaged in these activities is visible in the mountainous and hill areas where the urban centres are few. These areas have fewer roads and hardly any rail communications.

Sl. No.	State/Union Territory	Total urban workers 1961	Total urban workers in construction, transport and communications 1961	Percentage of workers to total workers in urban areas 1961
1	2	3	4	5
INDIA		26,429,934	3,089,522	11.69
STATES				
1	Andhra Pradesh	2,258,270	264,154	11.70
2	Assam	337,796	51,618	15.28
3	Bihar	1,300,244	151,906	11.68
4	Gujarat	1,588,496	150,928	9.50
5	Jammu and Kashmir	179,055	13,620	7.61
6	Kerala	755,132	71,386	9.45
7	Madhya Pradesh	1,616,730	210,903	13.04
8	Madras	3,093,683	304,363	9.84
9	Maharashtra	4,066,527	488,778	12.02
10	Mysore	1,793,604	183,865	10.25
11	Orissa	416,318	48,856	11.74
12	Punjab	1,234,102	160,495	13.01
13	Rajasthan	992,062	149,936	15.11
14	Uttar Pradesh	2,934,392	345,034	11.76
15	West Bengal	2,960,284	396,785	13.40
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	6,180	1,661	26.88
2	Delhi	746,815	79,927	10.70
3	Himachal Pradesh	24,079	2,359	9.80
4	Laccadive, Minicoy and Amindivi Islands		Entirely rural	
5	Manipur	27,569	1,952	7.08
6	Tripura	28,236	3,400	12.04
7	Dadra and Nagar Haveli		Entirely rural	
8	Goa, Daman and Diu	34,551	4,103	11.88
9	Pondicherry	26,232	2,408	9.18
10	North-East Frontier Agency		Entirely rural	
11	Nagaland	6,849	729	10.64
12	Sikkim	2,728	356	13.05

Source : Census of India, 1961, Vol. I, India, Part II-A (ii)—Union Primary Census Abstracts.





MAP 124

DENSITY OF RAILWAYS. 1961 (Kilometres of Railways per 10,000 square kilometres of Area)

Purpose : This map shows the density of railways in terms of the length of railway lines measured in kilometres per 10,000 sq. kms. of area in 1961.

Method : The railways are plotted on the base map of India (scale 1 : 5,000,000). The map is then divided into grids, each covering an area of 10,000 sq. kms. Then the railways in each of the grids are measured. In the centre of each grid, the figure for the length of railways is plotted and then isopleths are drawn through these points at suitable intervals as shown in the index of the map. The intervening space between two isopleths is shaded according to the ranges from high to low showing density of railways. Grids are, however, not shown in the map.

Salient Features : This map reveals that the configuration of the land has a great impact upon the density of railways. The plain areas of the country are marked by a dense network of railways, while the rugged mountains and hills are often without railways. The entire Northern Plain shows a very dense network of railways. In the Peninsular Plateau, due to its relatively uneven topography the network is less dense. The Himalayan region is almost devoid of railways.

The density of railways per 10,000 sq. kms. of area is very high (Above 400 kms.) in the industrial belt of the east, stretching from Calcutta to Dhanbad and Sonapur-Samastipur-Khagaria area of Bihar on the Eastern and North-Eastern Railways, Kanpur-Lucknow area of Eastern Uttar Pradesh, Khurja-Agra-Mathura area of Western Uttar Pradesh on the Northern Railway and Ahmedabad-Baroda-Surat region in Gujarat Plain on the Western Railway. It is worth mentioning here that all the above areas are the most densely populated parts in the country and have a flat topography. Many of the big railway junctions in the country are located in these areas.

The areas coming in the next range of railway length per 10,000 sq. kms. (250 to 400 kms.) form a long stretch covering the entire Northern Plain from Amritsar in the West to Calcutta in the East. A major portion of the

country's railway network lay in this belt. Another area of similar high density of railways is in the Gujarat Plain and its immediate adjacent areas of Saurashtra comprising the districts of Ahmedabad, Kaira, Amreli, Bhavnagar, Rajkot, Mehsana and parts of Baroda, Broach and Surat districts. Other small pockets within this range are found around the big railway junctions, such as, Bombay, Madras, Vijayawada, Nagpur, Tiruchirapalli etc. in the south.

In the mountainous north, the railways terminate mostly in the Sub-Himalayan or foot-hill zone. Towards the central highlands and plateaus, there is a sharp fall in the density of railways from 250 kms. to 150 kms. The areas showing a medium density of railways (150 to 250 kms.) form narrow strips running parallel to the railway lines connecting Bombay-Nagpur, Bombay-Hyderabad, Bombay-Bhopal-Delhi, Bombay-Ahmedabad, Ahmedabad-Jodhpur-Bhatinda, Delhi-Ajmer-Udaipur, Jhansi-Allahabad-Patna-Gaya-Calcutta, Hyderabad-Vijayawada, Madras-Bangalore-Hubli-Margao (Goa), Madras-Cochin, Madras-Mangalore and Madras-Tirunelveli. Another long thin but continuous strip of medium density railway net work can be found along the foot-hills of Himalayas stretching from Pathankot to Dhubri (Goalpara district in Assam). In Assam, the areas bordering the railway lines from Tinsukia-Jorhat-Lumding-Silchar also show a medium density.

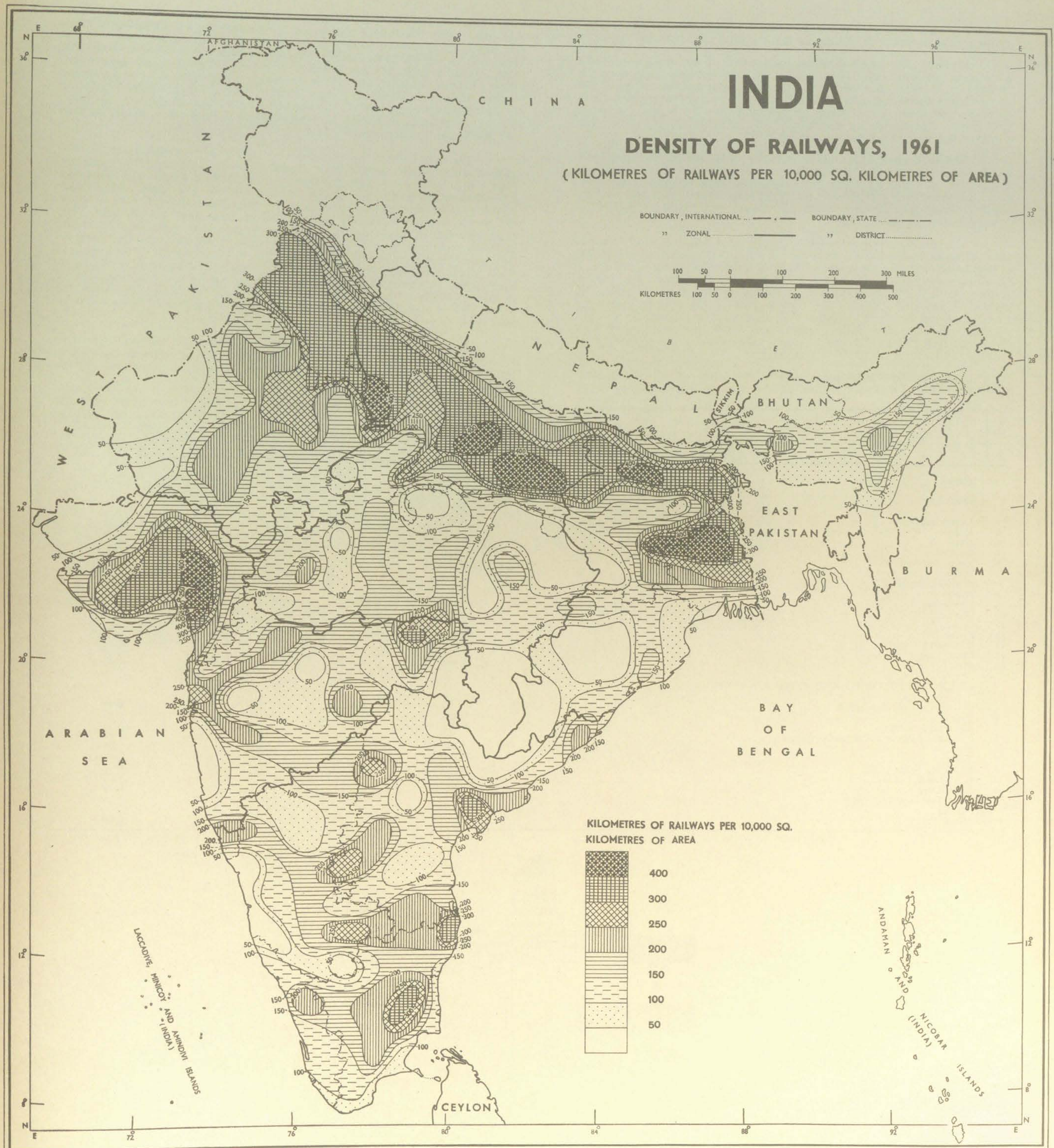
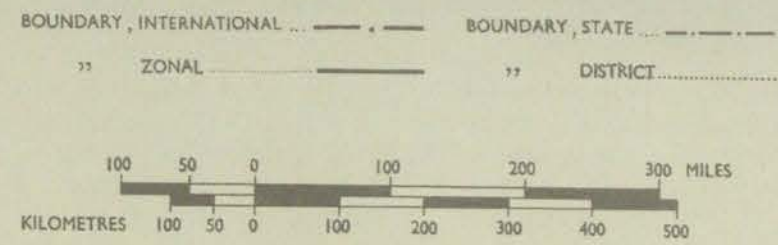
The density of railways per 10,000 sq. kms. decreases (50 to 150 kms.) in the eastern Rajasthan, Aravalli Range, Madhya Bharat Pathar, Bundelkhand Plateau, Vindhyan Scarplands, western parts of Vindhya and Satpura Ranges, Central Maharashtra Plateau, Chotanagpur Plateau, Coastal Orissa, Telangana Plateau and Assam. These areas usually show undulating surface with variation of slopes or rugged hills with a low level of economic development.

Rajasthan desert, swampy and sandy areas of the Rann of Kutch, Baghelkhand Plateau, Orissa Hills, Dandakaranya Region and coastal districts of Mysore exhibit a very low density of railways (below 50 kms.) largely due to their sandy topography or undulation or ruggedness.

Source : Data mostly supplied by the State Census Offices but in certain cases the data were obtained with the help of rotametre from the Survey of India Railway Map.

INDIA

DENSITY OF RAILWAYS, 1961
(KILOMETRES OF RAILWAYS PER 10,000 SQ. KILOMETRES OF AREA)



KILOMETRES OF RAILWAYS PER 10,000 POPULATION, 1961

Purpose : This map shows the length of railways in Kilometres per 10,000 persons in each of the districts of India in 1961.

Method : The length of railway lines in each of the districts of India is measured in kilometres by superimposing the administrative map upon the railway map of India. It is further calculated in term of kilometres per 10,000 of population for each district. The districtwise figures are then grouped into six ranges (as given in the index) above and below the National Average (1.24 kms.). The districts are accordingly hatched from high to low. The districts which have no railway lines are left blank.

Salient Features : In 1961, the total length of railway lines in India was 54,393.03 kilometres and the total number of persons in the country was 439,234,771. Accordingly the average length of railways per 10,000 of population in India was 1.24 kilometres. This map reveals that the sparsely populated areas show a greater length of railways per 10,000 of population than the densely populated parts.

The sparsely populated hill districts of United Mikir & North Cachar Hills in Assam has the highest proportion of railways in kilometres per 10,000 of population (7.96 kms.) followed by the arid districts of Churu (5.87 kms.), Ganganagar (5.18 kms.) and Barmer (5.10 kms.) in Rajasthan. For similar reasons, the length of the railways in kilometres per 10,000 of population is high (2.06 kms. and above) in the western part of the country embracing Rajasthan desert, Southern Punjab and the Kathiawar Peninsula. So also the districts lying in Chambal Valley, Satpura and Vindhya ranges, eastern part of Maharashtra Plateau and upper Assam valley show a high proportion of railways in kilometres per 10,000 of population.

As the density of population increases the length of railways in kilometres per 10,000 of persons decreases. The districts lying in northern Punjab,

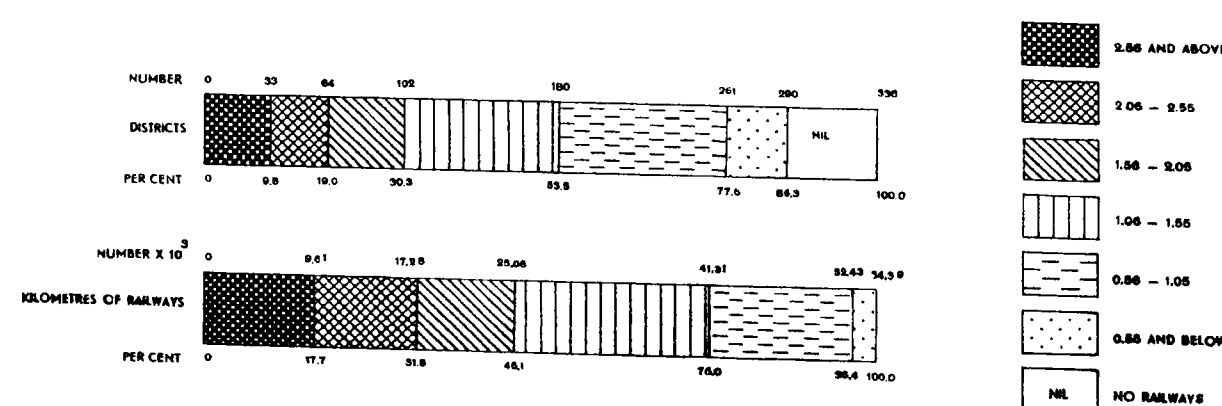
Rohilkhand Plains, the lower Ganga-Yamuna *doab*, southern Avadh Plains (Uttar Pradesh), Hazaribagh Plateau and the central part of West Bengal show the length of the railways in kilometres per 10,000 of population nearer to the National Average—1.24 kilometres. Their proportion varies between 1.06—2.05 kms. These areas have a medium density of railways too. Other areas which show a medium length of railways in kilometres per 10,000 of population are eastern Rajasthan, Aravalli Range, Malwa Plateau, Baghelkhand Plateau, Gujarat Plains, western part of Maharashtra Plateau, Karnataka and Telangana Plateaus of Mysore and Andhra Pradesh respectively and the coastal districts of Madras and Southern Andhra Pradesh.

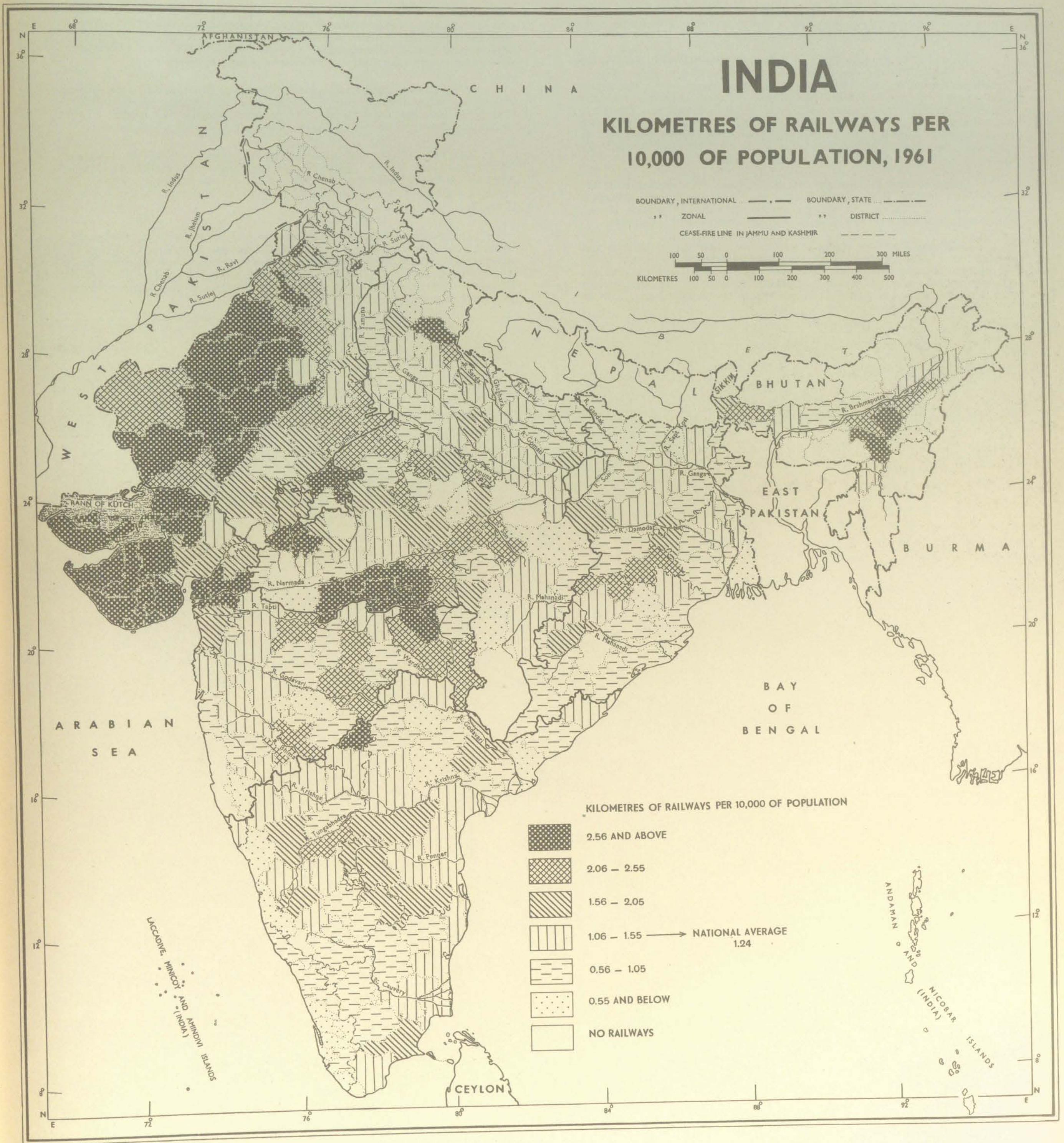
The most crowded areas in the country, such as, Trans Gomati-Ghaghara-Gandak Plains and Upper Ganga-Yamuna *doab* in Uttar Pradesh, North Bihar Plains, Bhagirathi Delta, north Bengal Plains and Tamilnad Upland show less length per 10,000 persons (Below 1.06 kms.). The figure further falls in those areas where density of population though not as high, the length of the railways is limited. These areas are, Kerala State, the coastal districts of Maharashtra and Mysore, southern and coastal districts in Orissa, southern part of Karnataka Plateau in Mysore and the parts of Telangana Plateau in Andhra Pradesh. The districts of Panna, Surguja and West Nimar in Madhya Pradesh; Kohima in Nagaland; Alleppey and Trivandrum districts in Kerala; Kolhapur district in Maharashtra and Nalgonda district in Andhra Pradesh show a very low proportion of railways in kilometres per 10,000 of population—below 0.55 kms. mainly because of lesser length of railways in these areas.

The lowest figure of railway length per 10,000 of population (0.06 kms.) is visible in the hill district of Garhwal where the railway network is insignificant and in the metropolis of Calcutta where the size of population is too high compared to its length of the railways.

Sl. No.	State/Union Territory	Population 1961	Length in Kilometres	Kilometres of railways per 10,000 of population
1	2	3	4	5
	INDIA	439,234,771	54,393.03	1.24
	STATES			
1	Andhra Pradesh	35,983,447	4,126.00	1.15
2	Assam	11,872,772	1,750.00	1.47
3	Bihar	46,455,610	4,733.00	1.02
4	Gujarat	20,633,350	5,362.00	2.60
5	Jammu and Kashmir	3,560,976	0.00	0.00
6	Kerala	16,903,715	878.00	0.52
7	Madhya Pradesh	32,372,408	4,386.00	1.34
8	Madras	33,686,953	3,439.00	1.02
9	Maharashtra	39,553,718	5,056.41	1.28
10	Mysore	23,586,772	2,697.00	1.14
11	Orissa	17,548,846	1,489.00	0.85
12	Punjab	20,306,812	3,301.00	1.63
13	Rajasthan	20,155,602	5,189.87	2.57
14	Uttar Pradesh	73,746,401	8,766.50	1.19
15	West Bengal	34,926,279	2,983.00	0.85
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	63,548	0.00	0.00
2	Delhi	2,658,612	123.60	0.46
3	Himachal Pradesh	1,351,144	5.00	0.04
4	Laccadive, Minicoy and Amindivi Islands	24,108	0.00	0.00
5	Manipur	780,037	0.00	0.00
6	Tripura	1,142,005	0.00	0.00
7	Dadra and Nagar Haveli	57,963	0.00	0.00
8	Goa, Daman and Diu	626,667	71.00	1.13
9	Pondicherry	369,079	28.65	0.78
10	North-East Frontier Agency	336,558	0.00	0.00
11	Nagaland	369,200	8.00	0.22
12	SIKKIM	162,189	0.00	0.00

Source : 1 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.
2 Railway Map, Survey of India, 1962.
3 Data supplied by the Superintendents of Census Operations.





MAP 126

ACCESSIBILITY TO RAILWAYS, 1961

Purpose : This map depicts the degree of accessibility to railways in various parts of the country in 1961 with a view to bringing to focus the areas which need special planning for railway development.

Method : In a map of India, the stations threaded with railways are plotted. With each of the stations as centre, arcs are drawn on either side of the railway lines with radii of 8, 16 and 32 kilometres respectively. These three successive curved lines parallel with the railways delineate the areas as easily accessible, slightly accessible, inaccessible and highly inaccessible. The easily accessible areas are left blank while the inaccessible areas are differentiated from high to low degree of inaccessibility by three different colours as shown in the index. In the highly inaccessible areas, if there is any town, it has been shown by circle proportionate to the size of its population.

Salient Features : This map reveals that most of the areas in Northern Plain—West Bengal, Bihar, Uttar Pradesh and Punjab are easily accessible (0 to 8 kms.) to railways. It has the densest network of railways leaving hardly any space which is more than 32 kilometres away from the railways.

Unlike the Northern Plains, the Peninsular part except Gujarat and major parts of Madras State has a less dense network of railways. As a result, the inaccessible tracts outstrip the accessible areas in the Peninsular Plateau. The amount of accessible areas is significantly small in the north-eastern part of the Peninsular Plateau. The areas which are highly inaccessible in

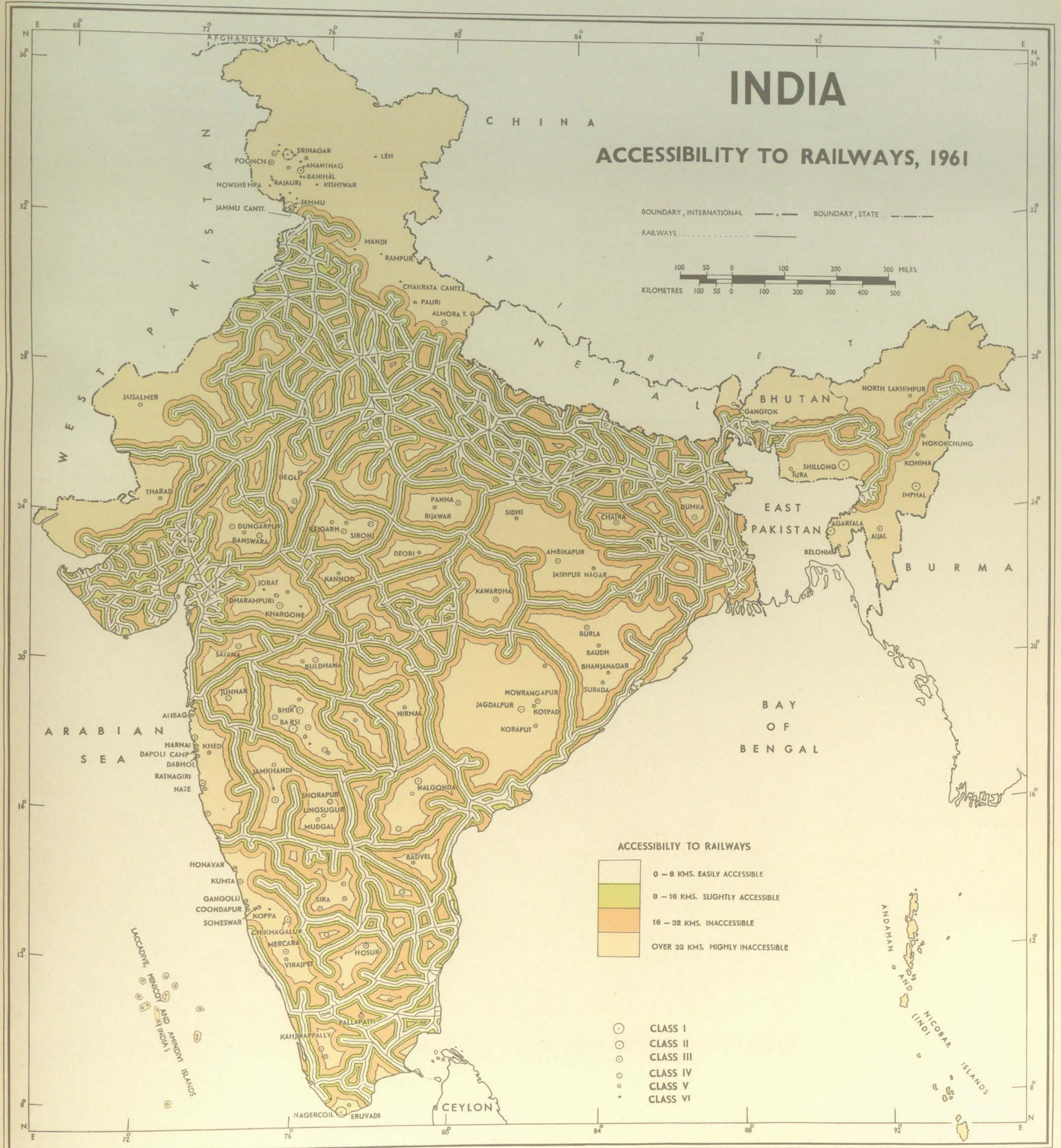
this part of the Peninsular Plateau may roughly be identified with the forested plateaus and hills of Baghelkhand and Chotanagpur, the Orissa hills and the Dandakaranya Region. Sidhi, Ambikapur, Kawardha and Jagdalpur in Madhya Pradesh and Baudh, Bhanjanagar, Surada, Kotpad, Koraput in Orissa are some of the towns of this area highly inaccessible to railways.

Some parts of Rajasthan, Madhya Pradesh, Maharashtra and Mysore are also highly inaccessible, such as, Rajasthan Desert Plain, Madhya Bharat Pathar, Malwa Plateau, Vindhya and Satpura ranges, the Kutch district of Gujarat, Ratnagiri district of Maharashtra and Malnad area of Mysore.

The State of Jammu & Kashmir; the hill tracts of Punjab, Himachal Pradesh and Uttar Pradesh; Assam Plateau and Mizo Hills; North-East Frontier Agency; Manipur; Nagaland and Tripura have no railways. Towns like Srinagar, Jammu, Shillong, Manipur and Agartala are beyond the reach of railways.

The analysis of the map shows that except the Himalayan Region and forest hills and Plateaus in the Eastern Hills where configuration makes the construction of railways a difficult task, the entire country is interwoven with railways but its density significantly thins out in the north-eastern part of the Peninsular Plateau which is still underdeveloped in spite of its immense richness in mineral-reserves.

Source : Railway Map of India, Survey of India, 1962.



MAP 127

AVAILABILITY OF RAILWAYS IN KILOMETRES PER 100,000 OF POPULATION PER 1,000 SQUARE KILOMETRES OF AREAS, 1961

Purpose : This map shows the availability of railways per 100,000 of population per 1,000 square kilometres of area in each of the districts of India in 1961.

Method : For this map the districtwise availability index has been worked out by combining the data used in the two previous maps 124 and 125. The availability index is calculated as follows :

$$\frac{\text{Length of railway lines in kms.} \times 100,000 \times 1,000}{\text{Total Population} \times \text{Total area in sq. kms.}}$$

These districtwise availability index figures are grouped into five suitable ranges as shown in the index of the map and all the districts are shaded from high to low values by choropleth method. The Union Territories/Districts having no railways are left blank.

Salient Features : This map shows a composite picture of earlier two maps—'Density of Railways, 1961' and 'Kilometres of Railways per 10,000 of population, 1961'. A cursory look at the map reveals that the north-western part of the country depicts a high availability index, while the Peninsular Plateau and the eastern part of the country except a few districts in West Bengal and Assam record a low railway-availability index.

The small district of Simla with a lesser density of population but with a high density of railways records the highest index of railway-availability per 100,000 of population per 1,000 sq. kms. of area (63.30 kms.). The districts which are small in size and have a very high dense network of railways show a high index (Above 7.00 kms.) in spite of their very high density of population, such as, the districts of Madras (21.40 kms.), Kapurthala (15.90 kms.), Lucknow (8.07 kms.) and Amreli (7.46 kms.) and the Union Territory of Pondicherry (16.57 kms.). Shivpuri district in Madhya Pradesh also falls under this range, though it is a large-sized district.

The districts showing the next high index of railway-availability (5.01—7.00 kms.) are the districts of Calcutta and Darjeeling in West Bengal, Dhanbad in Bihar, Pilibhit and Dehra Dun in Uttar Pradesh, Greater Bombay in Maharashtra, Datia in Madhya Pradesh, Mahendragarh in Punjab etc. These districts are also small in size and have a relatively dense network of railways as well as a high density of population. The sparsely populated large-sized districts of

United Mikir & North Cachar Hills (Assam), Raipur and Bilaspur (Madhya Pradesh) also show a high index of railway-availability ranging between 5.01 and 7.00 kilometres though the railway network in these districts is not so high.

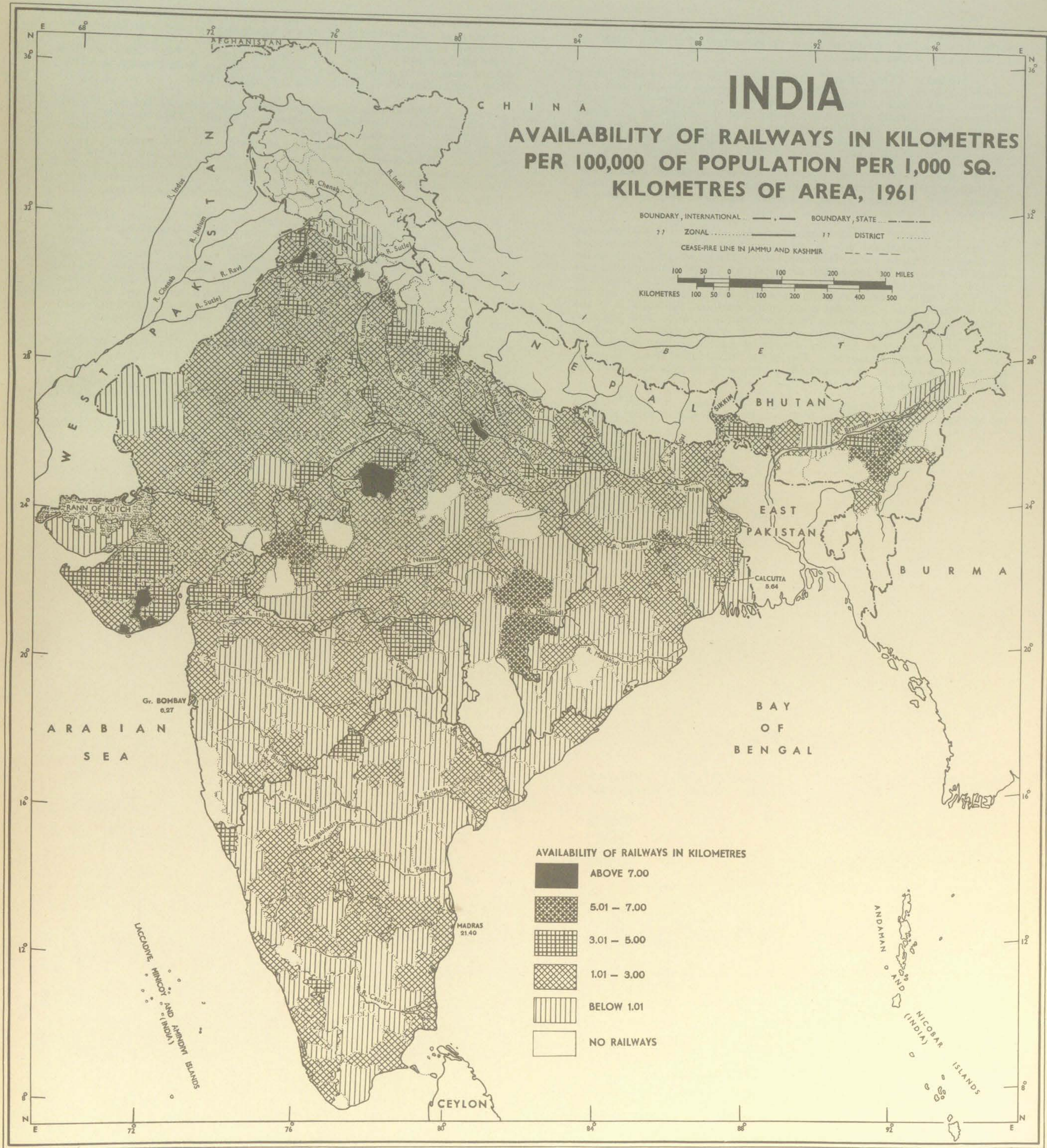
A medium index of railway-availability (3.01—5.00 kms.) can be noticed in the districts which support important railway junctions and a high density of railways as compared with their size of population. The districts falling in this range are Jamnagar, Rajkot, Surendranagar, Baroda and Bhavnagar in Gujarat State; Churu, Sikar, Bundi and Sirohi districts in Rajasthan State; Bhatinda, Jullundur, Ludhiana and Gurdaspur districts in Punjab State; Naini Tal, Bijnor, Bareilly, Mathura and Unnao in Uttar Pradesh State. The other districts showing similar index are Nowgong in Assam; Jalpaiguri, Birbhum, Nadia and Howrah in West Bengal; Shajapur, Hoshangabad, Indore, Gwalior and Narsimhapur in Madhya Pradesh; Nagpur and Wardha in Maharashtra; Bidar in Mysore and Nilgiri in Madras State.

The areas which are either densely populated with a very high dense network of railways or thinly populated with a thin or medium network of railways show a low index of railway-availability varying from 1.01—3.00 kms. Under the first category fall Uttar Pradesh, Punjab, West Bengal and north-eastern Bihar and the Tamilnad Plains in Madras, while under the second category are Rajasthan, northern Gujarat Plain, Madhya Bharat Pathar, Bundelkhand Plateau, Malwa Plateau, Vindhya and Satpura ranges and the southern parts of Telangana and Karnataka Plateaus. Kerala coast shows a low index because of its high density of population and a very thin network of railways.

A very low index of railway-availability (Below 1.01 kms.) is found either in the sparsely populated inaccessible areas or in the areas which show a very high density of population with relatively lesser length of railways. The Thar desert in Rajasthan, the swampy Kutch area in Gujarat, the hill districts of Kangra (Punjab), Garhwal (Uttar Pradesh), the forested hills and plateaus of Orissa, southern Bihar, part of Maharashtra Plateau, Karnataka Plateau and Telangana Plateau belong to the first category, while the Bhagirathi Delta in West Bengal, north-western part of Bihar and the Coimbatore region fall in the latter category.

The lowest index of availability of railways is recorded by the district of South Kanara (0.09 km.) in Mysore State where railway lines are negligible.

- Source : 1 Superintendents of Census Operations.
2 Railway Map, Survey of India.
3 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



MAP 128

DENSITY OF SURFACED ROADS, 1961 (Kilometres of surfaced roads per 10,000 sq. kms. of Area)

Purpose : This map depicts the regions according to the density of surfaced roads in the country in terms of kilometres of surfaced roads per 10,000 sq. kms. of area in 1961.

Method : All the surfaced roads are plotted on a map of India on the scale 1: 5,000,000. It is then divided into 10,000 square kilometre grids and the road length in each of these grids is measured. In the centre of each grid the figures for the length of roads are plotted and then isopleths are drawn through these points at suitable intervals as shown in the index of the map. The space in between the two isopleths is finally shaded according to the ranges from high to low density of roads as shown in the legend of the map.

Salient Features : This map reveals that the density of roads is very high (Above 2,000 kms.) in the suburban fringe of the metropolitan cities, Calcutta, Delhi, Ahmedabad, Greater Bombay, Bangalore, Madras, Hyderabad and the city of Coimbatore.

High density of roads ranging between 1,500 and 2,000 kms. per 10,000 square kilometres of area is noticed in four isolated patches—two in the Peninsular Plateau, one in the middle Ganga Plain and the fourth in the Ganga Delta area. The longest belt among them is in the southernmost part of the Peninsula stretching through the coastal districts of Madras State with bifurcation near Madurai district with an arm to Coimbatore district and the other to Kerala State. The other patch in the Southern Peninsula is in the north-western corner of Karnataka Plateau embracing the districts of Belgaum, Dharwar and North Kanara. In the middle Ganga Plain, density of roads is high in Avadh area embracing the districts of Lucknow, Bara Banki, Rae Bareli, Sultanpur and Pratapgarh. The fourth patch of high density of roads is in the western part of Bhagirathi Delta comprising the districts of Bankura, Purulia and Midnapore.

The next high range of density (1,250—1,500 kms.) is visible in both the Southern Peninsula and Northern Plain. In the Peninsular region it starts

from Ramanathapuram district and passes through the southernmost districts of Madras and the Western Ghat area of Kerala in a very irregular fashion and terminates near Goa passing through Mysore State. Its widest section is in the southern part of Mysore State. In the Northern Plain there are five different areas—two in the Trans-Ganga Plain, one in Rohilkhand and Avadh Plains, one in Bihar Plain and the fifth in Bhagirathi Delta.

It is worthnoticing that a major part of the country has the density of surfaced roads per 10,000 sq. kms. between 750 and 1,250 kms. Almost all the plain areas in the country fall in this range. These areas are Punjab Plains, Upper Ganga Plains and Middle Ganga Plains, the Brahmaputra Valley, the Gujarat Plains, Konkan and Malabar coasts in the west and Andhra and Orissa coasts in the east. Other worthmentioning areas under this range are the Aravalli hills and their forelands, the Kathiawar Peninsula, western part of Maharashtra Plateau, Malwa Plateau and parts of Baghelkhand Plateau.

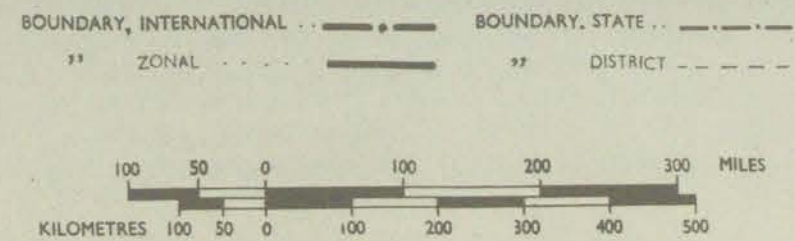
A low density of surfaced roads per 10,000 sq. kms. (250—750 kms.) is visible in Madhya Bharat Pathar, eastern part of Baghelkhand Plateau and Malwa Plateau, semi-arid area of Rajasthan and southern part of Kutch district. The Orissa hills, Ranchi Plateau, Assam hills and Plateaus, Dandakaranya Region, the northern Telangana and Karnataka Plateaus and the Eastern Hills embracing Nagaland, Manipur and Tripura also depict a low density of surfaced roads mainly because of their rugged terrain and low level of development. The Kashmir Valley and the sub-Himalayan region in Punjab and Uttar Pradesh are the other areas which show a low density of roads.

The highly inaccessible Himalayan mountain region stretching from Ladakh to North-East Frontier Agency, the Mizo Hills in Assam, the Thar Desert and the Rann of Kutch exhibit a very low density of roads (below 250 kms.). A small patch embracing the watershed area of Wainganga and Indravati rivers shared by Chanda district of Maharashtra and Bastar district of Madhya Pradesh also depict a low density of roads.

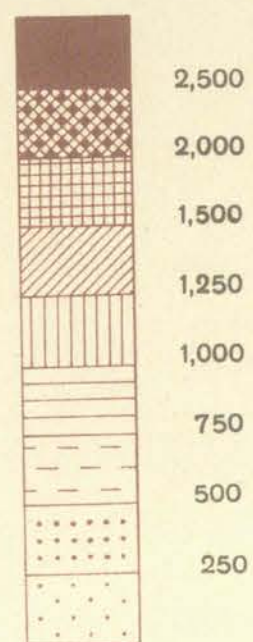
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- Source : 1 Data supplied by Superintendents of Census Operations.
2 Road map of India by Survey of India, 1962.
3 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

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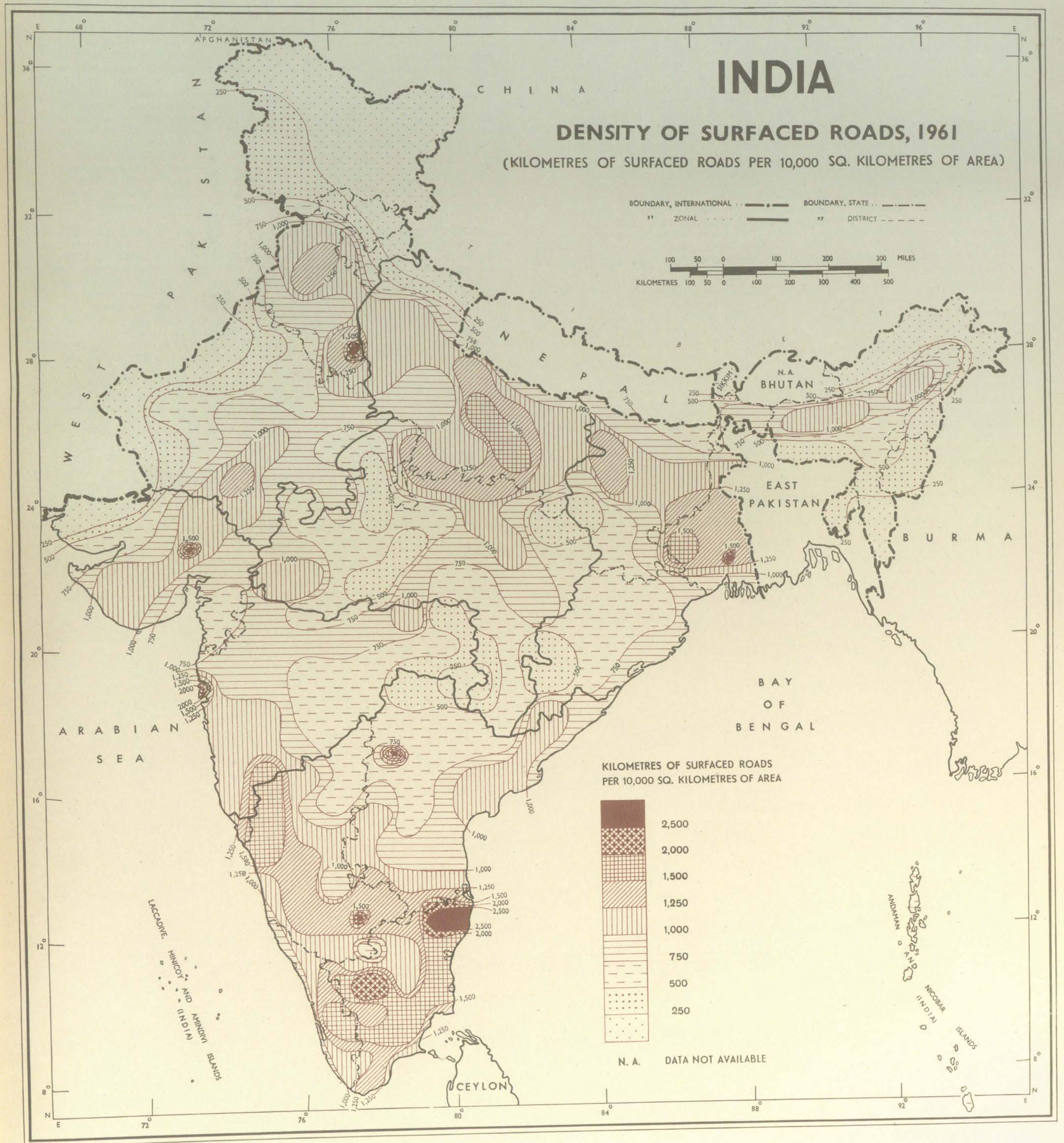
DENSITY OF SURFACED ROADS, 1961
(KILOMETRES OF SURFACED ROADS PER 10,000 SQ. KILOMETRES OF AREA)



KILOMETRES OF SURFACED ROADS
PER 10,000 SQ. KILOMETRES OF AREA



N. A. DATA NOT AVAILABLE



MAP 129

KILOMETRES OF SURFACED ROADS PER 10,000 OF
POPULATION, 1961

Purpose : This map depicts the length of surfaced roads in kilometres per 10,000 persons in each of the districts of India in 1961.

Method : The length of the roads in each of the districts is measured in kilometres by superimposing the administrative map upon the road map of India. Districtwise road length is further calculated in terms of kilometres per 10,000 of population for each district. The districtwise kilometre figures are then grouped into six categories—three above; one nearer to and two below the National Average (6.50 kms.) and the map is prepared by choropleth method. The districts for which data are not available are left blank and are marked with the abbreviation 'N.A.'.

Salient Features : The district of Jaisalmer in Rajasthan records the largest ratio of surfaced roads per 10,000 of population (43.61 kms.) followed by the districts of Mandya (37.23 kms.) in Mysore; Mandla (34.48 kms.) in Madhya Pradesh and Dangs (34.46 kms.) in Gujarat. The other areas which show a very high proportion of surfaced roads (Above 22.00 kms.) per 10,000 of population are Kohima and Mokochung districts in Nagaland; Bastar, Betul, Shahdol, Panna and Tikamgarh districts in Madhya Pradesh and Coorg, Chikmagalur and North Kanara districts in Mysore State. Though these districts do not have a dense network of surfaced roads, yet they show a very high ratio of surfaced roads per 10,000 of population mainly because of their low population density.

The areas having a larger share of surfaced roads per 10,000 of population fall under two successive ranges—(14.01—22.00 kms.) and (8.01—14.00 kms.) and cover a major portion of the country embracing the States of Rajasthan, Madhya Pradesh, Mysore, Kerala, the Rayalaseema area of Andhra Pradesh and south-western part of Maharashtra Plateau. It is worth mentioning that the above areas (except Kerala) are either arid plains or forested hills and plateaus and they have a low density of population, hence the length of surfaced roads per 10,000 persons have been relatively high (8.01—22.00 kms.). The other areas with a similar high proportion of surfaced roads per 10,000 persons are the districts of Jamnagar, Rajkot and Amreli in Kathiawar Peninsula, the north-western districts of Maharashtra and the Eastern Hill region (Union Territory of Manipur and Tuensang district of Nagaland). The district of Hissar in southern Punjab, the hill district of Baudh Khondmals in Orissa, Dehra Dun and Almora districts in Uttar Pradesh, Darjeeling district in West Bengal and United Khasi & Jaintia Hills of Assam Plateau also fall in this range.

The districts which share a length of surfaced roads per 10,000 of popu-

lation of medium range—4.01 and 8.00 kms. (nearer to the National Average of 6.50 kms.) fall either in the region where density of population is moderate and the length of surfaced roads is not very great or in the region where density of population is high and the length of surfaced roads is also high. The first type of region embraces the Chotanagpur Plateau in Bihar; Orissa hills and plateaus; the upper and lower basins of Godavari embracing Telangana Region in Andhra Pradesh and central part of Maharashtra Plateau; the catchment area of Chambal (Ujjain, Indore and Ratlam districts of Madhya Pradesh); Gujarat Plains and Saurashtra Plateau (except Jamnagar, Rajkot, Amreli, Mehsana, Ahmedabad, Kaira and Baroda districts); Bundelkhand Plateau in Uttar Pradesh and the plains of southern Punjab. The areas which fall under the second category are densely populated and have a good network of roads. They are the Tamilnad Plains and Uplands in Madras State, Coastal Andhra Pradesh, the districts of Mathura and Bijnor in Uttar Pradesh and Jalpaiguri district in West Bengal. The hill districts of Punjab and Himachal Pradesh, three southern districts of Jammu and Kashmir and Union Territory of Tripura also depict a medium length of surfaced roads per 10,000 of population.

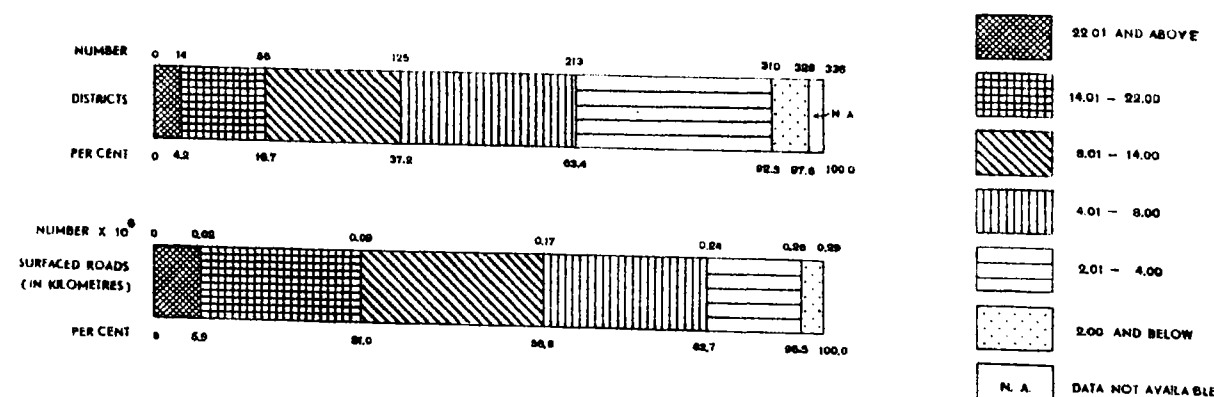
As the density of population increases, the length of surfaced roads per 10,000 of population decreases even in the areas with a dense road network. For example, the densely populated Northern Plain exhibits mostly a lesser length of surfaced roads per 10,000 of population (2.01—4.00 kms.) in spite of its comparatively denser network of roads. For similar reasons, districts of Mehsana, Ahmedabad, Kaira and Baroda in Gujarat Plain, Hyderabad and Karimnagar districts of Andhra Pradesh, North Arcot, Kanyakumari and Madurai districts in Madras and Cachar district in Assam and the Union Territory of Pondicherry also fall in this low range of surfaced roads per 10,000 of population. The hill districts of Kashmir Himalayas show a lesser length of surfaced roads per 10,000 of population due to their lesser length of surfaced roads.

The length of surfaced roads per 10,000 of population (2.00 kms. and below) is common in Assam Valley, Bhagirathi Delta and in the districts of Darbhanga and Muzaffarpur in North Bihar Plain, Bahraich district in Uttar Pradesh and Cuttack district of Orissa. The other areas where the length of surfaced roads per 10,000 of population is within this range are the sparsely populated districts of Garo Hills, Mizo Hills and United Mikir & North Cachar Hills in Assam where the topography is always a hindrance to the development of roads. The smallest proportion of surfaced roads per 10,000 of population is recorded in very densely populated urban districts of Greater Bombay (0.03 km.) followed by Calcutta (0.08 km.).

Sl. No.	State/Union Territory	Population 1961	Surfaced roads in kilometres 1961	Kilometres of surfaced roads per 10,000 of population
1	2	3	4	5
INDIA*	...	439,234,771	285,218.19	6.50
STATES				
1 Andhra Pradesh	...	35,983,447	26,688.00	7.42
2 Assam	...	11,872,772	2,590.00	2.18
3 Bihar	...	46,455,610	12,527.00	2.70
4 Gujarat	...	20,633,350	11,932.35	5.78
5 Jammu and Kashmir	...	3,560,976	1,128.05	3.17
6 Kerala	...	16,903,715	20,858.10	12.34
7 Madhya Pradesh	...	32,372,408	50,160.00	15.49
8 Madras	...	33,686,953	15,969.00	4.74
9 Maharashtra	...	39,553,718	30,121.27	7.62
10 Mysore	...	23,586,772	34,945.87	14.82
11 Orissa	...	17,548,846	8,078.00	4.60
12 Punjab	...	20,306,812	8,688.50	4.28
13 Rajasthan	...	20,155,602	26,947.00	13.37
14 Uttar Pradesh	...	73,746,401	22,205.00	3.00
15 West Bengal	...	34,926,279	7,355.00	2.11
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	63,548	124.58	19.60
2 Delhi	...	2,658,612	829.70	3.12
3 Himachal Pradesh	...	1,351,144	493.00	3.65
4 Laccadive, Minicoy and Amindivi Islands	...	24,108	...	...
5 Manipur	...	780,037	875.00	11.22
6 Tripura	...	1,142,005	853.00	7.47
7 Dadra and Nagar Haveli	...	57,963	37.00	6.38
8 Goa, Daman and Diu	...	626,667	828.00	13.21
9 Pondicherry	...	369,079	123.00	3.33
10 North-East Frontier Agency	...	336,558	...	...
11 Nagaland	...	369,200	735.77	19.93
12 SIKKIM	...	162,189	126.00	7.77

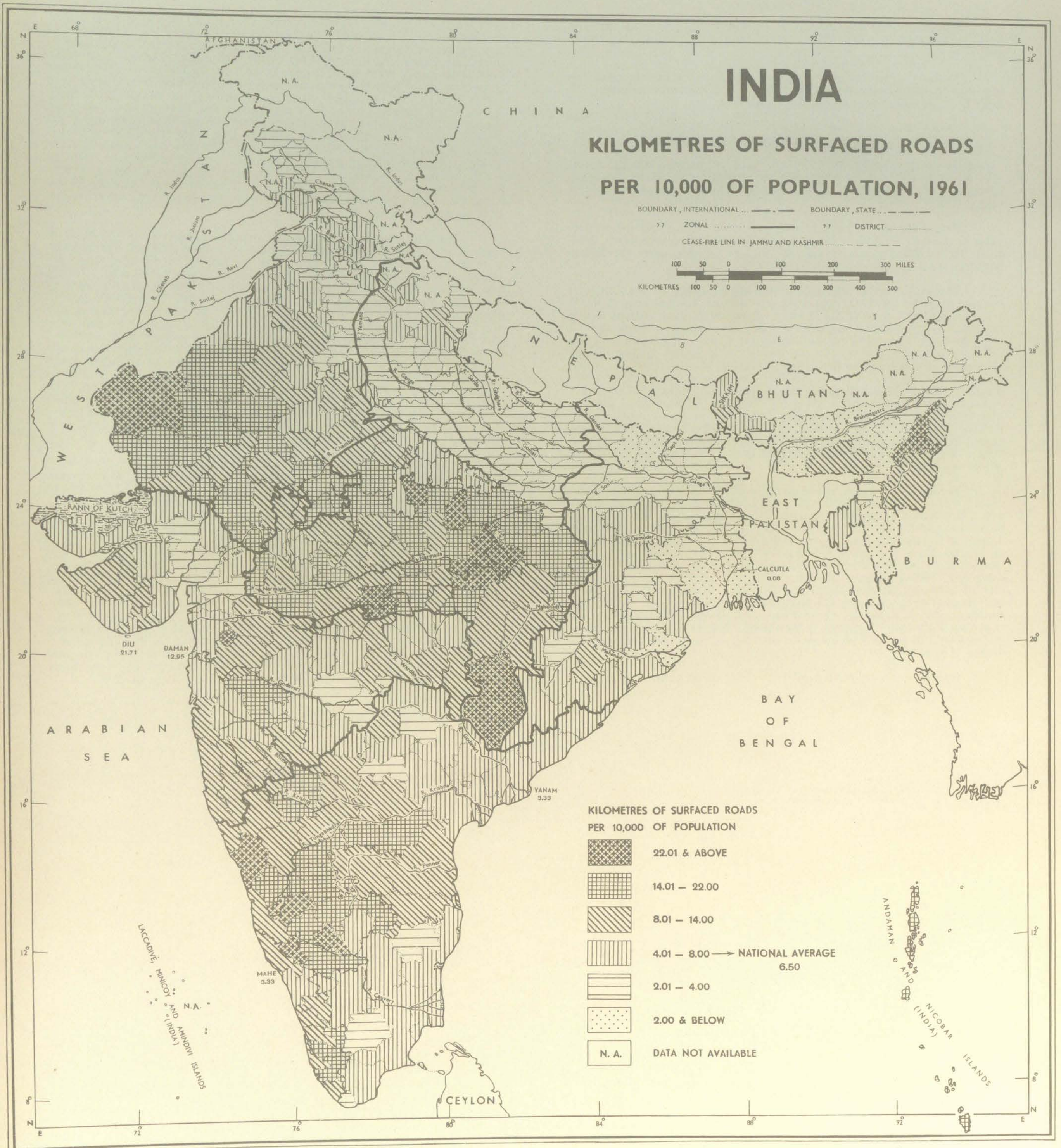
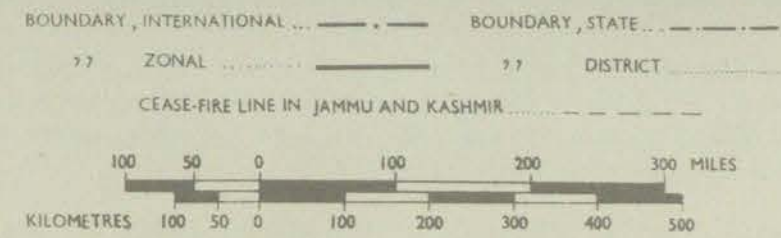
*National Average has been calculated after excluding the population of Laccadive, Minicoy and Amindivi Islands and North-East Frontier Agency for which data relating to surfaced roads in kilometres are not available.

Source : 1 Data supplied by the Superintendents of Census Operations.
2 Road map of India by Survey of India.
3 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

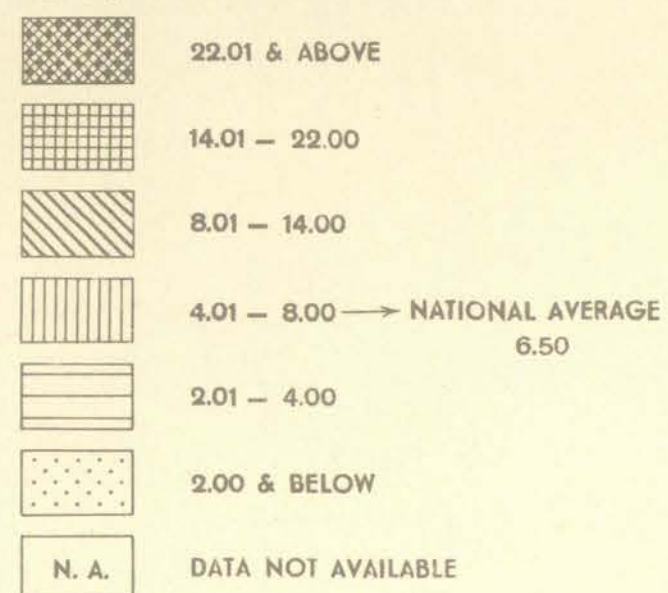


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KILOMETRES OF SURFACED ROADS PER 10,000 OF POPULATION, 1961



KILOMETRES OF SURFACED ROADS PER 10,000 OF POPULATION



AVAILABILITY OF SURFACED ROADS PER 100,000 OF POPULATION
PER 1,000 SQUARE KILOMETRES OF AREA, 1961

Purpose : This map shows the districtwise availability of surfaced roads per 100,000 of population per 1,000 square kilometres of area during 1961.

Method : The districtwise road availability index for this map has been worked out by combining the data used in the two previous maps—128 and 129. The availability index is calculated as :

$$\frac{\text{Length of surfaced roads in kms.} \times 100,000 \times 1,000}{\text{Total population} \times \text{Total area in sq. kms.}}$$

These districtwise availability index figures are grouped into six ranges as shown in the legend to the map and all the districts are shaded by choropleth method. The areas for which data are not available are indicated with abbreviation 'N.A.'.

Salient Features : The map reveals that the central and the western parts in the extreme south of the country exhibit a high index of roads availability per 100,000 of population per 1,000 sq. kms. of area; while the eastern part depicts a low index of availability of roads.

The small Island of Diu records the highest index of availability of surfaced roads per 100,000 of population per 1,000 sq. kms. of area (5,566.33 kms.) followed by Daman (2,272.32 kms.). Some small sized districts with a lesser density of population but with a high density of surfaced roads show a very high index of availability of surfaced roads (Above 32.00 kms.). These are : Simla district in Punjab; Bilaspur district in Himachal Pradesh; Datia, Tikamgarh, Panna and Narsimhapur districts in Madhya Pradesh; Bundi, Dungarpur and Sirohi districts in Rajasthan; Dangs district in Gujarat; Chikmagalur and Mandya districts in Mysore; Kohima and Mokokchung districts in Nagaland and Goa district in the Union Territory of Goa, Daman and Diu. The other districts which also depict a very high index of availability of surfaced roads are : Madras in Madras State; Trichur, Ernakulam, Alleppey, Quilon and Trivandrum districts in Kerala and Kapurthala district in Punjab State. All these districts are small in size and have a very high dense network of surfaced roads.

The areas showing the next high range of the availability of surfaced roads (16.01—32.00 kms.) embrace the small sized densely populated districts with a high density of surfaced roads or the districts with a low density of population and not too high density of roads. In the first category fall three districts of Kerala State (Cannanore, Palghat and Kottayam) and one district of Madras State (Kanyakumari) and the Union Territory of Delhi; while 18 districts in Madhya Pradesh embracing roughly Baghelkhand, Vindhyan Scarplands, Malwa Plateau, Mahadeo Hills and Maikala Range and six districts in Mysore State (North Kanara, Shimoga, Chitradurga, Tumkur, Kolar and Hassan) are the examples for the second type. Nilgiri district in Madras; Amreli in Gujarat; Banswara, Ajmer, Kota and Jhalawar in Rajasthan; Kathua in Jammu & Kashmir; Darjeeling in West Bengal and the district of Tuensang in Nagaland also show a high index of availability of roads due to their low density of population.

A medium index of roads availability (8.01—16.00 kms.) may be seen

in the areas which have a moderate density of surfaced roads with a low or medium density of population. In the northern and central part of the Peninsula, the Malwa Plateau (excluding Jhabua, Dhar, Indore, Dewas and Rajgarh), the Chambal basin, the Aravalli Hills, Eastern Rajasthan Uplands and some areas of Rajasthan Plain show surfaced roads availability of medium range. In the Southern Peninsula, the north-western part of the Saurashtra Plateau and Sabarkantha district in Gujarat State, eight districts of Maharashtra State significantly in the plateau area and the Konkan Coast, four districts in north Karnataka Plateau and one along the coast of Mysore State fall under the medium index of availability of roads. Besides, there are a few scattered pockets in the States of Kerala, Andhra Pradesh, Madhya Pradesh and Sikkim. The densely populated districts with a medium or high density of surfaced roads, such as, Bijnor, Rampur, Pilibhit, Mathura, Mainpuri, Lucknow, Fatehpur and Ballia districts in Uttar Pradesh and Dhanbad district in Bihar depict a medium index of availability of surfaced roads per 100,000 of population per 1,000 sq. kms. of area.

The areas which are either densely populated with a very high dense network of surfaced roads or thinly populated with a thin or medium network of roads exhibit a low index of the availability of surfaced roads per 100,000 of population per 1,000 sq. kms. of area (4.01—8.00 kms.). A long belt stretching from Punjab to the eastern part of Uttar Pradesh embracing most of the Punjab Plains, the Upper Ganga Plains and the central part of Middle Ganga Plains in Uttar Pradesh depicts the low index due to high density of population in spite of high density of roads. Another similar strip with a low index is visible along the Eastern Coast and its immediate hinterland in the Peninsular Plateau. It starts from Balasore district in Orissa Coast and extends through the littoral part of Orissa, Andhra Pradesh and Madras States with breaks at four districts (Cuttack district in Orissa, Guntur district in Andhra Pradesh, South Arcot and Ramanathapuram districts in Madras). The other areas with a low availability index of surfaced roads (4.01 to 8.00 kms.) are the forested hills and plateaus in the eastern Madhya Pradesh, the Satpura Hills and southern part of Kathiawar Peninsula which have a thin network of roads, though density of population is low.

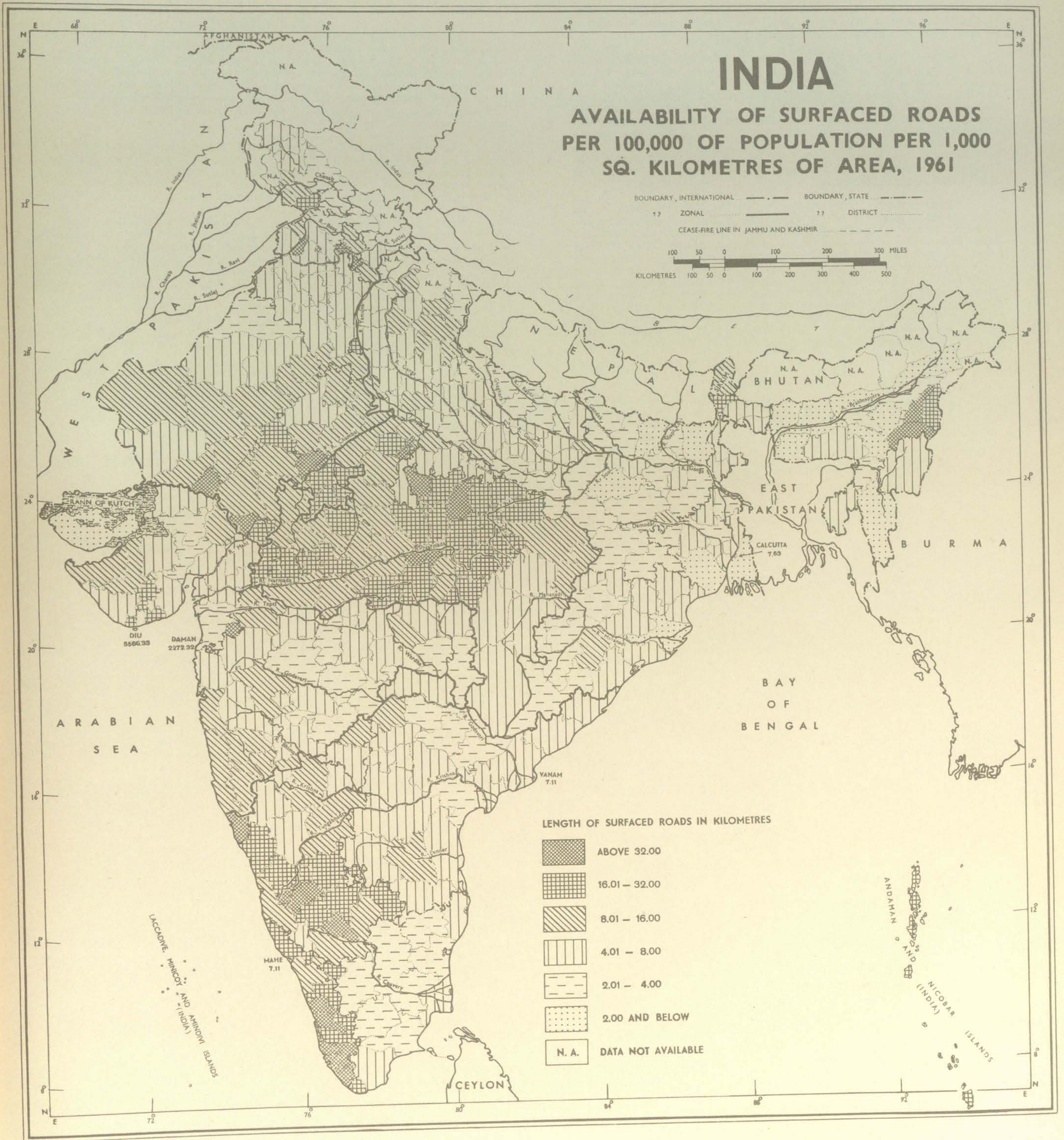
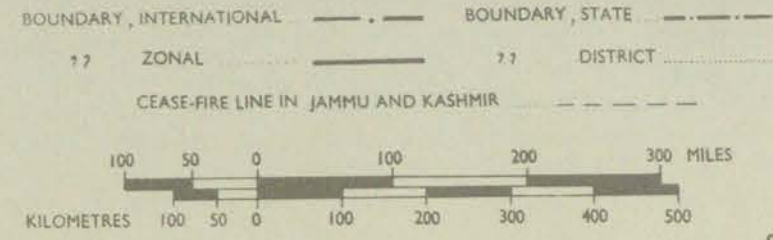
A further low index of the availability of surfaced roads (2.01—4.00 kms.) is visible in the Ganga Plain, Chotanagpur plateau, in the western part of Orissa State, in Tamilnad plateau and in a few scattered districts of Maharashtra, Andhra Pradesh and Gujarat States. Except in Orissa plateau and Chotanagpur plateau this low index may be attributed to high density of population.

A very low index of roads availability (2.00 kms. and below) is found either in sparsely populated areas with a poor network of roads or in the areas which show a very high density of population with moderate density of surfaced roads. Kutch district of Gujarat and the districts of United Mikir & North Cachar Hills, Garo Hills, Lakhimpur, Darang etc. in Assam show a very low index attributable to the first reason; while the low index in the districts of 24-Parganas and Midnapore in West Bengal; Cuttack in Orissa; Purnea, Darbhanga and Gaya districts in Bihar is attributable to the second. The Mizo Hills district (Assam) which is highly inaccessible to roads and is sparsely populated, records the lowest index (0.14 km.) of the availability of surfaced roads per 100,000 of population per 1,000 sq. kms. of area.

Source : 1 Data supplied by the Superintendents of Census Operations.
2 Road map of India by Survey of India.
3 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.

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AVAILABILITY OF SURFACED ROADS
PER 100,000 OF POPULATION PER 1,000
SQ. KILOMETRES OF AREA, 1961



MAP 131

ACCESSIBILITY TO SURFACED ROADS, 1961

Purpose : This map is intended to show the areas which were accessible to surfaced roads in India during 1961. It also seeks to focus attention to the areas which are still inaccessible to surfaced roads.

Method : In a road map of India, all the important settlements at an interval of 8 kilometres are plotted. With each of these settlement points as centres, arcs are drawn on either side of the surfaced roads with radii of 8, 16 and 32 kilometres respectively. Contiguous arcs have overlapped with each other and have formed belts parallel to the surfaced roads. The first belt parallel to surfaced roads is not shaded and represents the areas easily accessible (0—8 km.), the space between 8 km. and 16 km. lines denotes slightly accessible areas, while that between the 16 km. and 32 km. shows inaccessible areas and the areas beyond 32 km. lines are highly inaccessible. The degree of accessibility is differentiated by shades of different intensity as shown in the legend of the map.

Salient Features : The map reveals that the Northern Plain, Assam Valley and the southern part of the Peninsular Plateau are easily accessible (0—8 km.) to surfaced roads. In northern part, a dense network of surfaced roads can be noticed in Bari *doab* plains of Punjab, Avadh Plains of Uttar Pradesh, Bundelkhand area shared by Uttar Pradesh and Madhya Pradesh, the Son Valley between Madhya Pradesh and Bihar and the Hooghly and Burdwan regions of West Bengal. In the south, the density of roads is very high along the East Coast where there is hardly any place more than 8 kms. away from the surfaced roads. The areas which are easily accessible but with a lesser network of roads are in the southern part of Telangana Plateau of Andhra Pradesh, Karnataka Plateau of Mysore (excluding its north-eastern part), southern Punjab Plains and the Upper Ganga-Yamuna *doab* and Rohilkhand

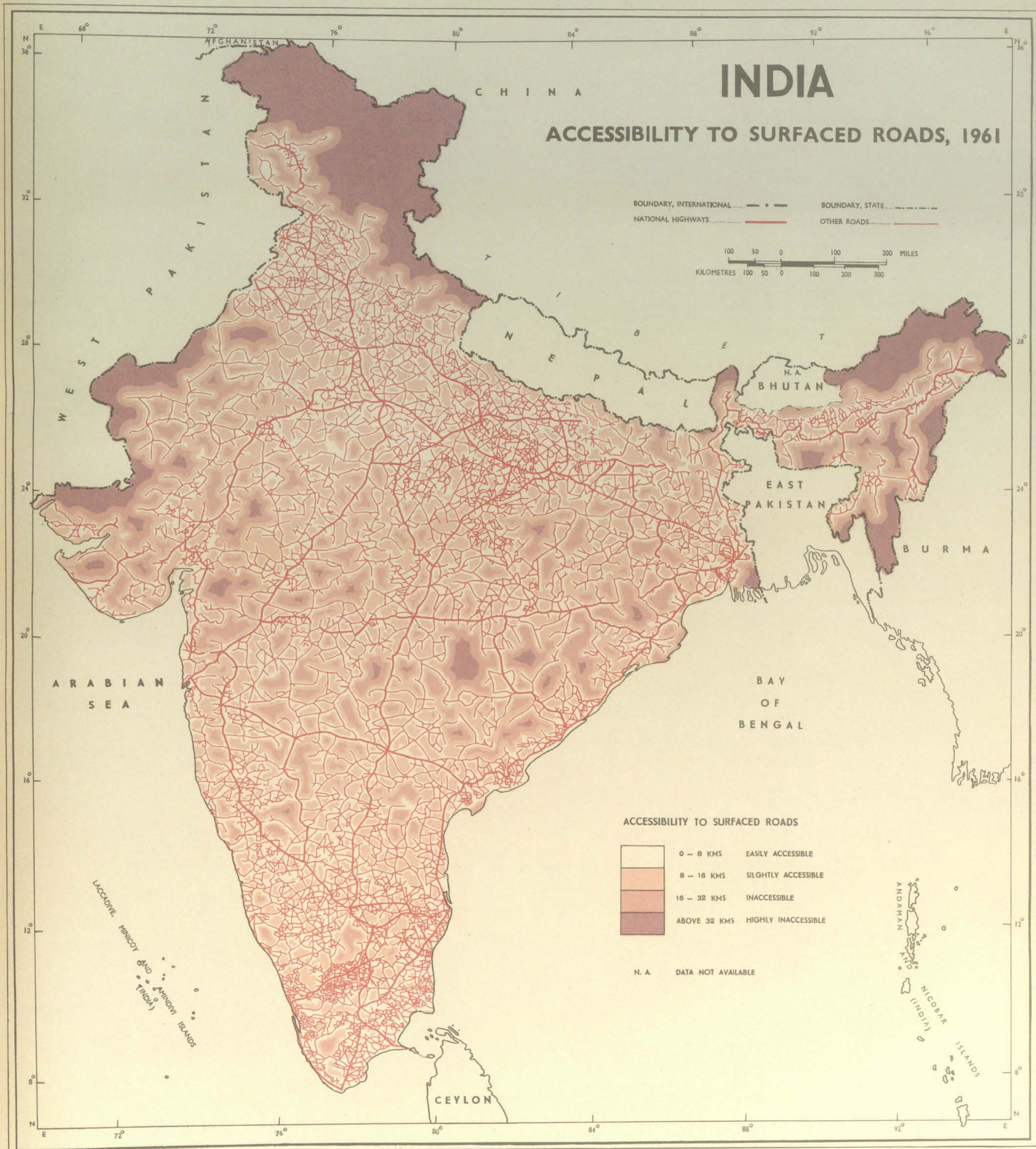
Plains of Uttar Pradesh.

The accessibility gradually decreases as one proceeds towards the Peninsular Plateau in the south and the Himalayas in the north. The areas which fall between the category 8 kms. to 16 kms. are the Malwa Plateau, Vindhyan Scarplands and Chhattisgarh basin of Madhya Pradesh; the north-eastern part of Rajasthan; Tapti Valley and the upper basins of Krishna, Bhima and Godavari rivers in Maharashtra Plateau; the Gujarat Plains; the north-eastern part of Karnataka Plateau of Mysore and northern part of Telangana Plateau of Andhra Pradesh.

The areas which are highly inaccessible to surfaced roads (16·00 to 32·00 kms.), by and large lie in the forested hills and plateaus, such as, Baghelkhand Plateau, western Orissa Hills, Chotanagpur Plateau, Assam Plateau, Dandakaranya Region, Vindhyan and Satpura ranges, the Aravallis and western part of Rajasthan and the Kathiawar Peninsula.

Very highly inaccessible areas (beyond 32·00 kms.) to surfaced roads are quite frequent in the Himalayan region, Rajasthan desert, Rann of Kutch area and the Eastern Hills. Two-thirds of Kashmir Himalayas and half of the Punjab-Kumaun Himalayas in the north are very highly inaccessible to surfaced roads. In the Eastern Himalayas, greater part of N.E.F.A. is more than 32·00 kms. away from the nearest surfaced roads. The Union Territories in the east, such as, Nagaland, Manipur and Mizo Hills of Assam are also very far off from the surfaced roads. Scattered areas within this range are also found in the extreme western part of Satpura range in Broach district of Gujarat, Udaipur district of Rajasthan, Sundarban area in West Bengal, United Khasi and Jaintia Hills, Naga Hills, the southern part of Tripura and Sikkim.

Source : Road map of India by Survey of India.



1 Based upon Survey of India map with the permission of the Surveyor General of India.

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2 The demarcation of the Gujarat-West Pakistan Boundary in accordance with the Indo-Pakistan Western Boundary Case Tribunal Award is in progress (1969).

NUMBER OF PASSENGERS ORIGINATING PER ROUTE KILOMETRE
PER DAY ON RAILWAYS, 1961

Purpose : This map seeks to show the intensity of passenger-traffic in 1961. It is measured in terms of passenger kilometres per route kilometre of railways per day in different zones of the railways in the country.

Method : Passenger kilometres per route kilometre per day, 1961 have been calculated for each of the railway zones in the country as per formula given below :

$$\text{Number of passengers originating per route kilometre per day} = \frac{\text{Passenger Kilometres}}{\text{Route Kilometres} \times 365}$$

Here '*Passenger Kilometres*' represent the travel of a passenger over a distance of one kilometre and '*Route Kilometres*' represent the kilometerage of railway line covered by the worked lines of railway zones. The figures thus obtained have been depicted by solid flow lines of different thickness proportionate to the intensity of traffic on either side of the railway lines. The railway zones are differentiated by various colours as shown in the legend of the map.

Salient Features : Among the various railway zones, the Eastern Railway has the heaviest flow of passenger's traffic originating per route kilometre per day (185). This railway zone extends over the densely populated part of West Bengal and northern plateau part of Bihar forming the immediate hinterland of Calcutta port. Moreover, this area is highly industrialized and urbanized. The Hooghly Industrial Region and Damodar Valley Region of this zone support a large number of industrial towns served by a dense network of railways by which industrial workers commute daily to and from work. All the industrial and mining towns in this zone, such as, Dhanbad, Sindri, Asansol, Chittaranjan, Durgapur, Raniganj etc. and the Greater Calcutta area which attract workers from adjoining areas and other parts of the country are served by this railway.

The Western Railway zone stands second in order of the intensity of traffic-flow showing a large number of passengers originating per route kilometre of railways per day (108). This railway has both broad and metre gauge lines and serves the eastern part of Rajasthan, western part of Madhya Pradesh and Gujarat State connecting Delhi with two important industrial cities, viz., Greater Bombay and Ahmedabad. Gujarat shows the highest intensity of passenger's traffic in this zone, perhaps, due to the heavy concentration of textile industry, petroleum refineries and the functioning of Kandla port.

Next comes the Central Railway with a fairly high intensity of passenger's traffic-flow (100). This railway zone extends over the central part of Madhya Pradesh, most of Maharashtra State and the northern part of Andhra Pradesh. The railway network of this zone connects a number of industrial and commercial Class I (with population 100,000 and above) towns (cities), such as, Delhi, Agra, Jhansi, Kanpur, Allahabad, Mathura, Greater Bombay, Poona, Nagpur, Jabalpur, Bhopal, Hyderabad, Vijayawada etc.

The intensity of passenger's traffic-flow is moderate in Southern Railway zone (70). This zone serves the southern half of the Peninsula comprising the States of Madras, Kerala, Mysore and southern part of Andhra Pradesh; Madras, Bangalore, Kolhapur, Sholapur, Trivandrum, Coimbatore, Visakhapatnam, etc. which are the important industrial and service centres threaded by this railway system. This railway also serves the hinterland areas of the ports of Visakhapatnam and Madras on the East Coast and Calicut, Cochin and Mangalore on the West Coast. The cities of tourist's interest and religious importance, such as, Ootacamund, Mysore, Madurai, Rameshwaram, etc., too are connected by this railway system.

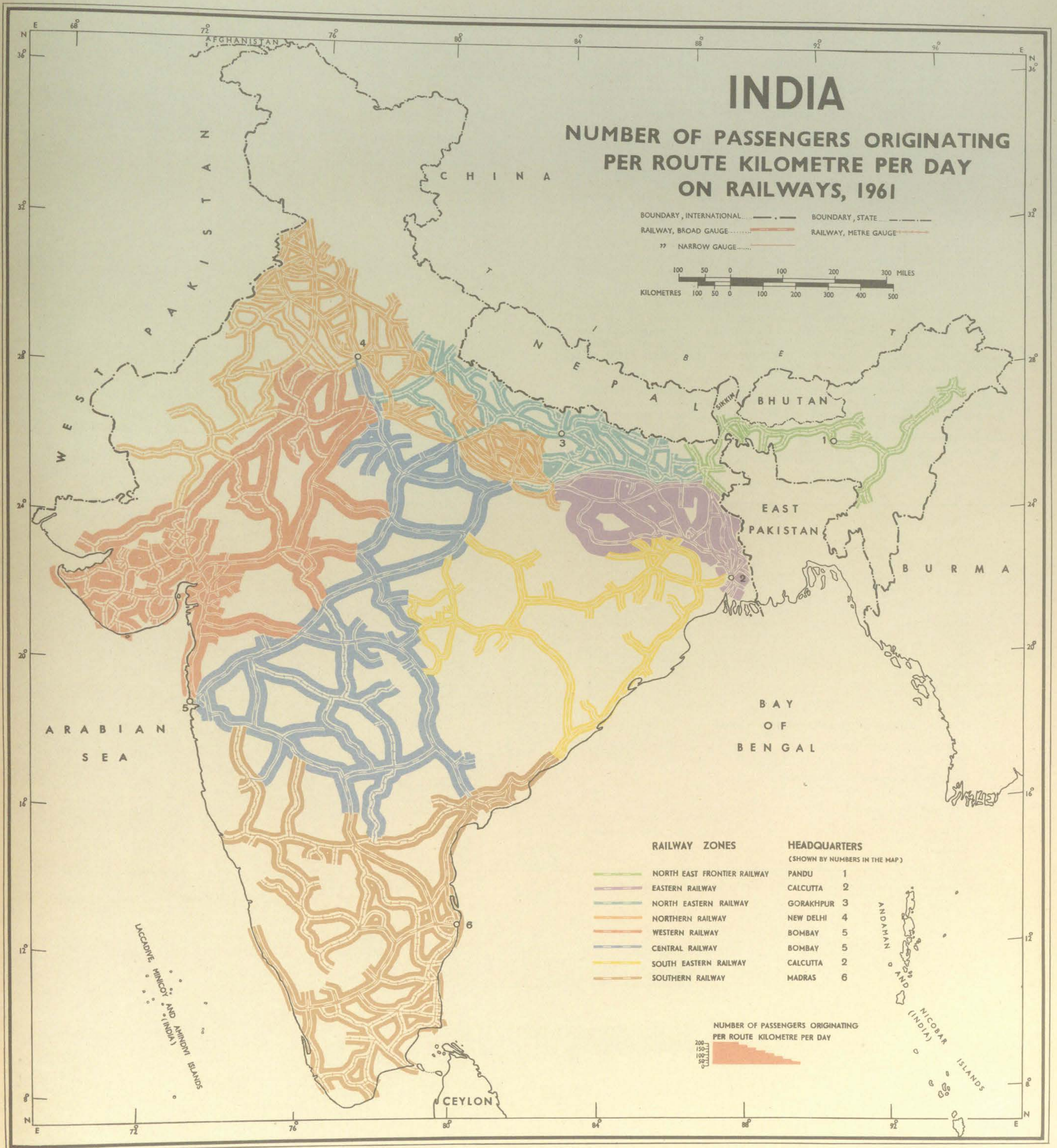
The intensity of traffic-flow further decreases as one reaches the areas where agricultural activities predominate. The *Terai* areas of Uttar Pradesh and Bihar are interspersed by a network of metre gauge railways with a low intensity of passenger's traffic. Here (North Eastern Railway zone), the number of passengers originating per route kilometre of railways per day is only 53. Except a few terminal points, such as, Mathura, Bareilly, Kanpur, Lucknow, Allahabad etc. in this zone, most of the stations are small towns at the foot-hills of the Himalayas along the Nepal border from Ramnagar in the west to Jaynagar in the east. There are a few important transshipment points, such as, Kathgodam, Tanakpur, Chandan Choki, Katarnian Ghat, Naipalganj Road, Darwa, Nautanwa, Bhikna Thoree and Raxaul.

The Northern Railway zone also exhibits a low intensity of traffic-flow having a lesser number of passengers originating per route kilometre of railways per day (45). This railway zone embraces the sparsely populated western part of Rajasthan and very highly populated Punjab and Ganga Plain (Uttar Pradesh). The northern part of Punjab Plains and western part of Uttar Pradesh show a high advancement in agriculture and support a number of industrial towns predominantly engaged in agro-based industries. In spite of the high density of population and high degree of urbanization in the major part of this zone, it shows a low traffic-flow most probably due to the competition of railways with roadways. It is worth mentioning that most of the National/State Highways and other roads in this zone run parallel to the railways.

The North-Eastern Frontier Railway zone depicts a very low intensity of passenger's traffic-flow with an average of 36 passengers originating per route kilometre of railways per day. This zone supports tea plantation and oil mining industries.

The South-Eastern Railway zone shows the lowest intensity of traffic-flow having the smallest number of passengers originating per route kilometre of railways per day. This railway zone serves the most underdeveloped and underurbanized parts of the country, such as, Chotanagpur Plateau of Bihar, Orissa State and the eastern part of Madhya Pradesh. Other than a few mining and three Steel towns of Rourkela, Bhilai and Jamshedpur there is hardly any industrial centre of significance.

Source : Report by Railway Board on Indian Railways for 1960-61, Vol. II, Statistics, Statements 8 and 12.



MAP 133

NUMBER OF MOTOR VEHICLES REGISTERED PER 10,000 OF
POPULATION, 1961

Purpose : This map shows the districtwise distribution of motor vehicles registered per 10,000 of persons in India in 1961.

Method : The number of registered motor vehicles which include cars, taxis, buses, trucks etc. has been calculated per 10,000 of population for each district and indices thus obtained are grouped into six ranges—three above, one nearer to and two below the National Average (14) and the districts are then shaded by different grades of hatchings as shown in the legend.

Salient Features : This map shows that the metropolitan cities, such as, Calcutta (254), Greater Bombay (148), Delhi (141) and Madras (95) record very high number of motor vehicles registered per 10,000 of population. Among the other districts with high indices, Hyderabad, Bangalore, Jaipur, United Khasi & Jaintia Hills and Kohima are worth-mentioning. The districts of Lakhimpur and Sibsagar in Assam, Nilgiri in Madras and Darjeeling in West Bengal with predominance of tea/coffee plantation industries show a very large number of registered motor vehicles per 10,000 of population. The sparsely populated district of Ganganagar where Rajasthan Canal is under construction and the district of Jodhpur, which was once a Princely State and now an important commercial centre, also show a large number of motor vehicles registered per 10,000 of population. In all, 16 districts in the country fall under this category (above 38).

The districts which rank next with indices between 26 and 38 are fewer still (13). They are either erstwhile Princely States, such as, Patiala, Bikaner, Kota and Coorg or the tea-plantation districts like Darrang, Kamrup and Jalpaiguri. Other districts under this range are Ahmedabad, Trivandrum and Dhanbad where industrial and mining activities predominate. The Union Territory of Goa, Daman & Diu also falls under this range.

There are 27 districts in the country showing registration of 16 to 25 motor vehicles per 10,000 of population in 1961. These districts lie in the northern hills of Orissa, southernmost part of Bihar, in the south western part of

Maharashtra Plateau and in Madras. Fifteen districts showing similar ratio are scattered in the country. These are the districts of Jullundur, Kapurthala (Punjab); Meerut, Lucknow, Bareilly (Uttar Pradesh); Patna (Bihar); Ajmer (Rajasthan); Surat, Kutch (Gujarat); Trichur, Kottayam (Kerala); South Kanara (Mysore); Cachar, Mizo Hills (Assam) and Sikkim.

The areas which are pre-eminently agrarian have indices between 9 and 15; and 75 districts fall in this range.

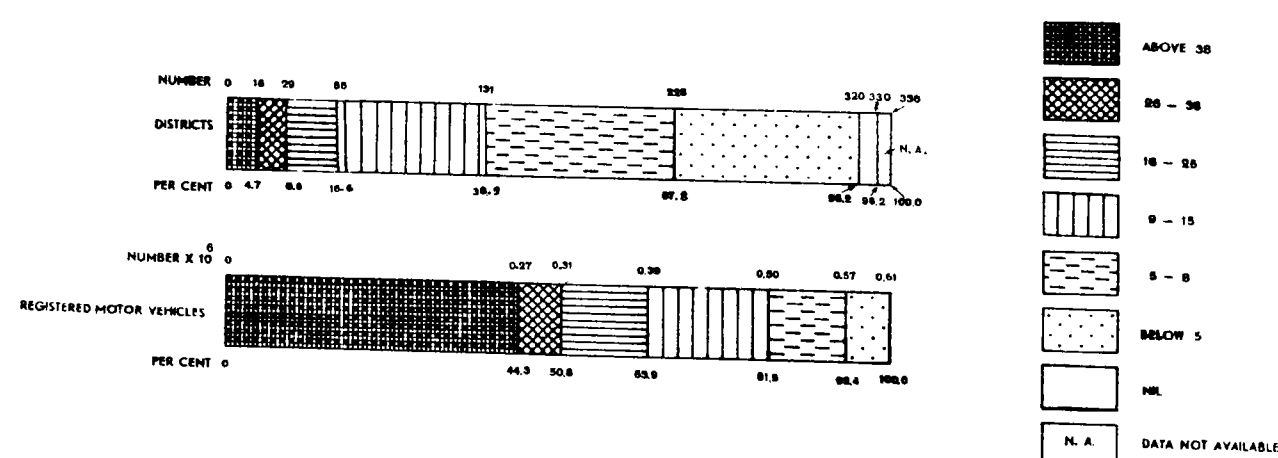
A large number of districts (97) show a very low registration of motor vehicles per 10,000 of population (5 to 8). These areas may be identified with the inaccessible forested plateaus and hills, such as, southern part of Orissa, Aurangabad Division and Coastal districts of Maharashtra State, south eastern part of Karnataka Plateau of Mysore State, Hazaribagh Plateau of Bihar, Eastern Ghats, Bhopal and Jabalpur Divisions of Madhya Pradesh and the Union Territory of Manipur. Other similar areas lie in the districts of Barmer, Jalor and Banswara of Rajasthan; Panchmahals, Mehsana and Banaskantha districts of Gujarat; southern districts of Jammu and Kashmir and the United Mikir & North Cachar Hills district of Assam. The coastal districts of Andhra Pradesh and Madras and a few districts in Ganga-Yamuna *doab* area and in Punjab Plains also show a small ratio of motor vehicles registered per 10,000 of persons.

In all, 92 districts in the country show an extremely low registration of motor vehicles per 10,000 of population (below 5). The densely populated fertile upper, middle and lower Ganga Plain and Bhagirathi delta exhibit a very small number of motor vehicles (below 5) registered per 10,000 of population. The other areas which also show a very small number of motor vehicles registered per 10,000 of population are found in the inaccessible areas of Central Orissa hills, Bilaspur and Rewa Divisions of Madhya Pradesh, Adilabad district of Andhra Pradesh, Punjab-Kumaun Himalayas and Northern Kashmir Himalayas.

Sl. No.	State/Union Territory	Population 1961	Number of motor vehicles registered 1961	Number of motor vehicles registered per 10,000 of population 1961
1	2	3	4	5
	INDIA*	439,234,771	614,513	14
	STATES			
1	Andhra Pradesh	35,983,447	32,190	9
2	Assam	11,872,772	39,195	33
3	Bihar	46,455,610	26,539	6
4	Gujarat	20,633,350	29,359	14
5	Jammu and Kashmir	3,560,976	1,383	4
6	Kerala	16,903,715	24,480	14
7	Madhya Pradesh	32,372,408	25,073	8
8	Madras	33,686,953	47,252	14
9	Maharashtra	39,553,718	100,144	25
10	Mysore	23,586,772	39,232	17
11	Orissa	17,548,846	15,890	9
12	Punjab	20,306,812	22,837	11
13	Rajasthan	20,155,602	34,726	17
14	Uttar Pradesh	73,746,401	33,296	5
15	West Bengal	34,926,279	98,989	28
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	63,548	315	50
2	Delhi	2,658,612	37,394	141
3	Himachal Pradesh	1,351,144	885	7
4	Laccadive, Minicoy and Amindivi Islands	24,108	NIL	NIL
5	Manipur	780,037	644	8
6	Tripura	1,142,005	1,397	12
7	Dadra and Nagar Haveli	57,963	N.A.	N.A.
8	Goa, Daman and Diu	626,667	1,871	30
9	Pondicherry	369,079	N.A.	N.A.
10	North-East Frontier Agency	336,558	N.A.	N.A.
11	Nagaland	369,200	1,142	31
12	SIKKIM	162,189	280	17

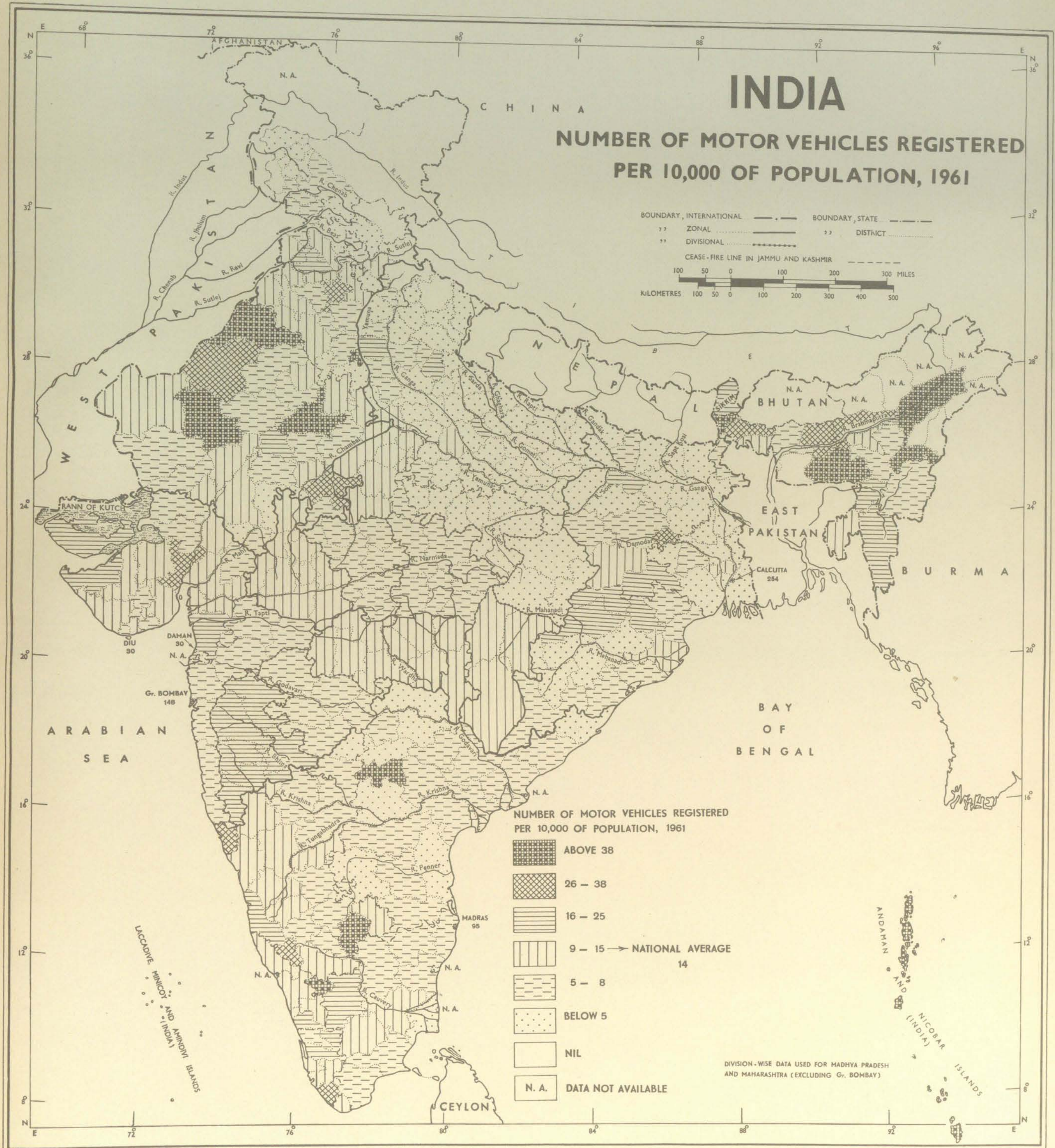
* National Average has been calculated after excluding the population of Dadra and Nagar Haveli, Pondicherry and North-East Frontier Agency for which the data relating to the number of motor vehicles registered are not available.

Source : 1 Data Supplied by Superintendents of Census Operations.
2 Data supplied by States Transport Offices.
3 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.



INDIA

NUMBER OF MOTOR VEHICLES REGISTERED PER 10,000 OF POPULATION, 1961



Trade and Commerce

MAP 134

PERCENTAGE OF WORKERS ENGAGED IN TRADE AND COMMERCE TO THE TOTAL WORKING POPULATION, 1961

Purpose : The map shows the percentage of workers engaged in trade and commerce to the total working population in all the districts of India in 1961.

Method : Districtwise percentages of workers engaged in trade and commerce to the total working population are shown in the map by choropleth method by grouping the data into five ranges—two above, one nearer to and two below the National Average (4.06%) as detailed in the legend of the map.

Salient Features : The map reveals that there are 45 districts having proportions of workers in trade and commerce in the highest range (above 6.00%). Mention may be made of Calcutta (23.89%), Greater Bombay (18.01%), Delhi (17.17%) and Karaikal in Pondicherry (13.62%) which show very high proportions. The Punjab Plain, the Ganga-Yamuna *doab* area and Kerala Coast with advanced agricultural systems have a large number of districts with high proportions of workers engaged in trade and commerce. Calcutta Industrial Region in West Bengal, Ahmedabad and Rajkot districts of Gujarat, Indore and Gwalior districts of Madhya Pradesh and Kanpur, Lucknow and Mirzapur districts of Uttar Pradesh also exhibit high proportions of workers engaged in trade and commerce.

In all, there are 45 districts which have their proportions of workers in trade and commerce in the next range (4.51—6.00%). These districts are

mostly nearer to the highly commercialized and industrialized areas.

93 districts have their proportions of workers in trade and commerce in the range (3.01—4.50%) which is nearer to the National Average (4.06%). The largest concentration of districts under this category is seen in Uttar Pradesh (13) followed by Andhra Pradesh and Mysore (11 each) and Madhya Pradesh and Rajasthan (8 each) etc.

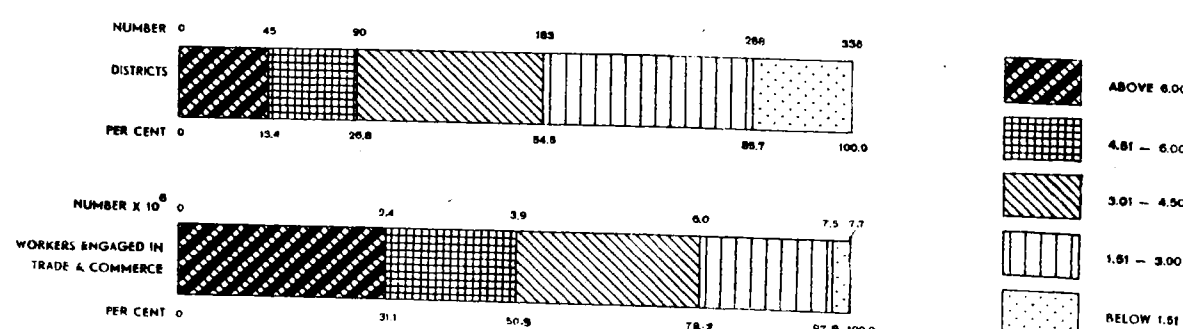
The largest number of districts (105) falls under the next range (1.51—3.00%). These districts are mainly in Madhya Pradesh (22), Uttar Pradesh (20) and Rajasthan (15) etc.

In 48 districts, the proportions of workers in trade and commerce are very low (below 1.51%). These districts are mainly in the western and Kumaun Himalayas, eastern Madhya Pradesh, Orissa Hills and Plateaus and Nagaland area. These areas are economically backward and have the level of industrialization at their infancy.

From the above analysis, it may be summed up that the proportions of workers in trade and commerce are high in the metropolitan districts, industrial belts and areas where advanced methods of agriculture are practised. In hilly and rugged areas with very little industrial development and communication system, the proportions of workers engaged in trade and commerce are very low.

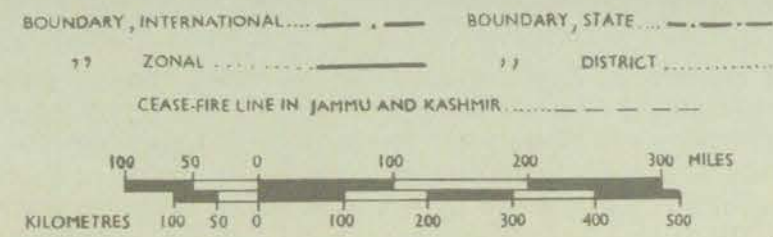
Sl. No.	State/Union Territory	Total workers 1961	Workers in trade and commerce 1961	Percentage of workers in trade and commerce to total workers 1961
1	2	3	4	5
INDIA		188,675,500	7,653,571	4.06
STATES				
1	Andhra Pradesh	18,663,042	798,147	4.28
2	Assam	5,137,411	184,707	3.60
3	Bihar	19,234,565	522,949	2.72
4	Gujarat	8,474,588	411,156	4.85
5	Jammu and Kashmir	1,523,621	33,620	2.21
6	Kerala	5,630,333	321,933	5.72
7	Madhya Pradesh	16,929,177	403,637	2.38
8	Madras	15,351,621	758,301	4.94
9	Maharashtra	18,948,481	856,050	4.52
10	Mysore	10,726,346	391,020	4.44
11	Orissa	7,661,529	147,462	1.92
12	Punjab	7,101,146	385,471	5.43
13	Rajasthan	9,583,840	288,157	3.01
14	Uttar Pradesh	28,850,141	1,062,882	3.68
15	West Bengal	11,580,195	872,204	7.53
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	31,194	1,095	3.51
2	Delhi	854,451	146,727	17.17
3	Himachal Pradesh	805,487	7,177	0.89
4	Laccadive, Minicoy and Amindivi Islands	12,449	112	0.90
5	Manipur	357,920	11,889	3.32
6	Tripura	437,229	18,521	4.24
7	Dadra and Nagar Haveli	34,794	226	0.65
8	Goa, Daman and Diu	258,138	13,526	5.24
9	Pondicherry	138,370	13,352	9.65
10	North-East Frontier Agency	26,164	407	1.56
11	Nagaland	219,310	1,237	0.56
12	Sikkim	103,958	1,606	1.54

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.

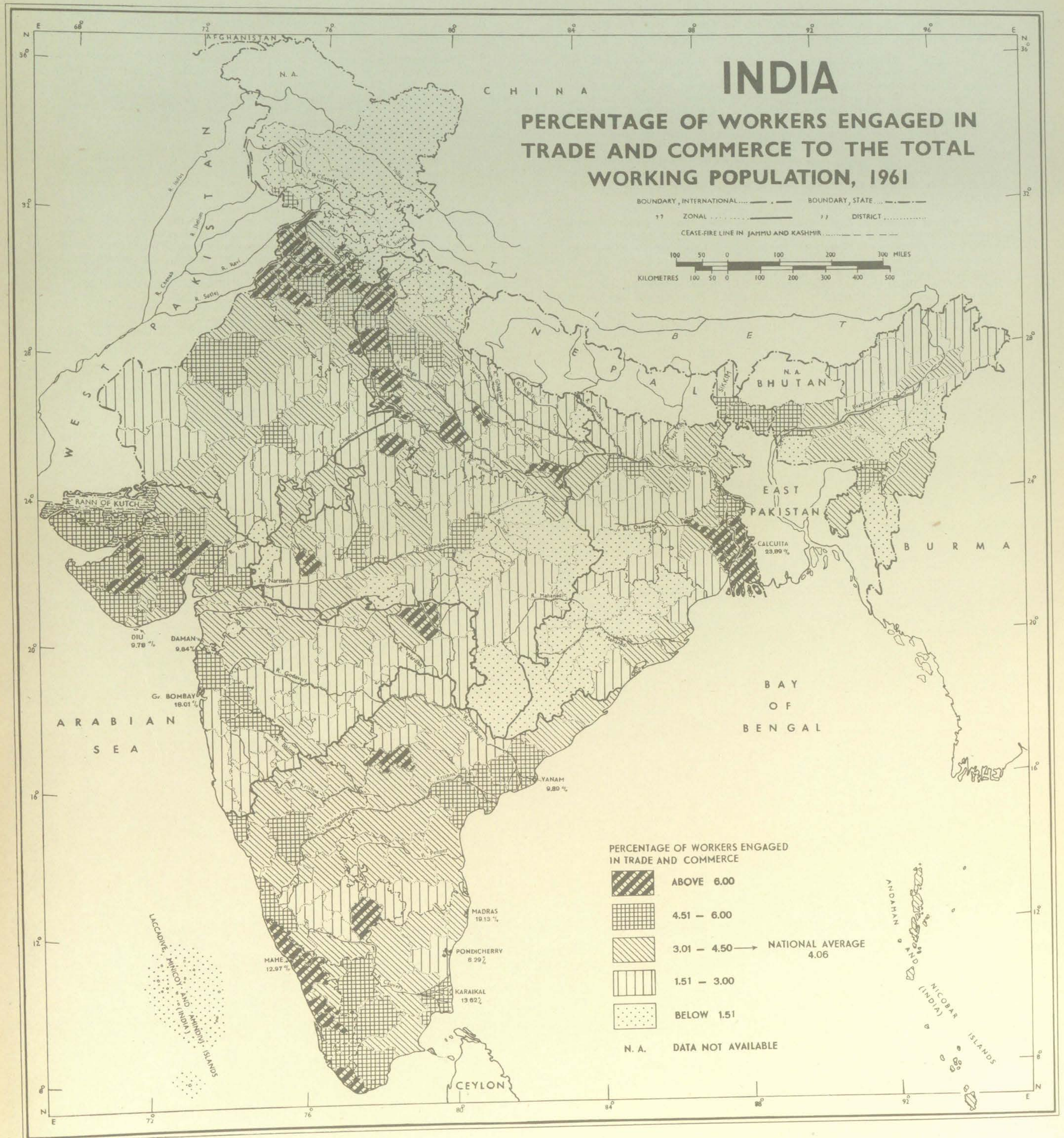
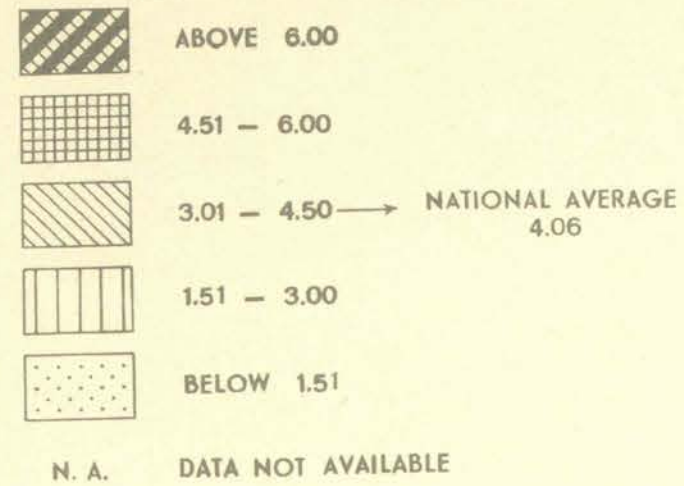


INDIA

PERCENTAGE OF WORKERS ENGAGED IN TRADE AND COMMERCE TO THE TOTAL WORKING POPULATION, 1961



PERCENTAGE OF WORKERS ENGAGED IN TRADE AND COMMERCE



MAP 135

PERCENTAGE SHARE OF WORKERS IN WHOLESALE TRADE, RETAIL TRADE AND MISCELLANEOUS TRADE TO THE TOTAL WORKERS IN TRADE AND COMMERCE, 1961

Purpose : This map shows the percentage share of workers engaged in wholesale trade, retail trade and miscellaneous trade to the total workers in trade and commerce in each State/Union Territory of India in 1961.

Method : The total number of workers in trade and commerce in each State/Union Territory of India is represented by circle proportionate to the size of the workers. The percentage of workers in each of the three categories, i.e., wholesale trade, retail trade and miscellaneous trade to the total workers in trade and commerce is calculated for each State/Union Territory of India and these figures are then converted into degrees. Three sectors are cut in each circle to represent the share of workers in each of the three categories. Three types of screens have been used in the sectors showing the share of workers in wholesale trade, retail trade and miscellaneous trade. The figures given below the circles represent the total number of workers in trade and commerce, while the percentage figures indicate workers under different categories.

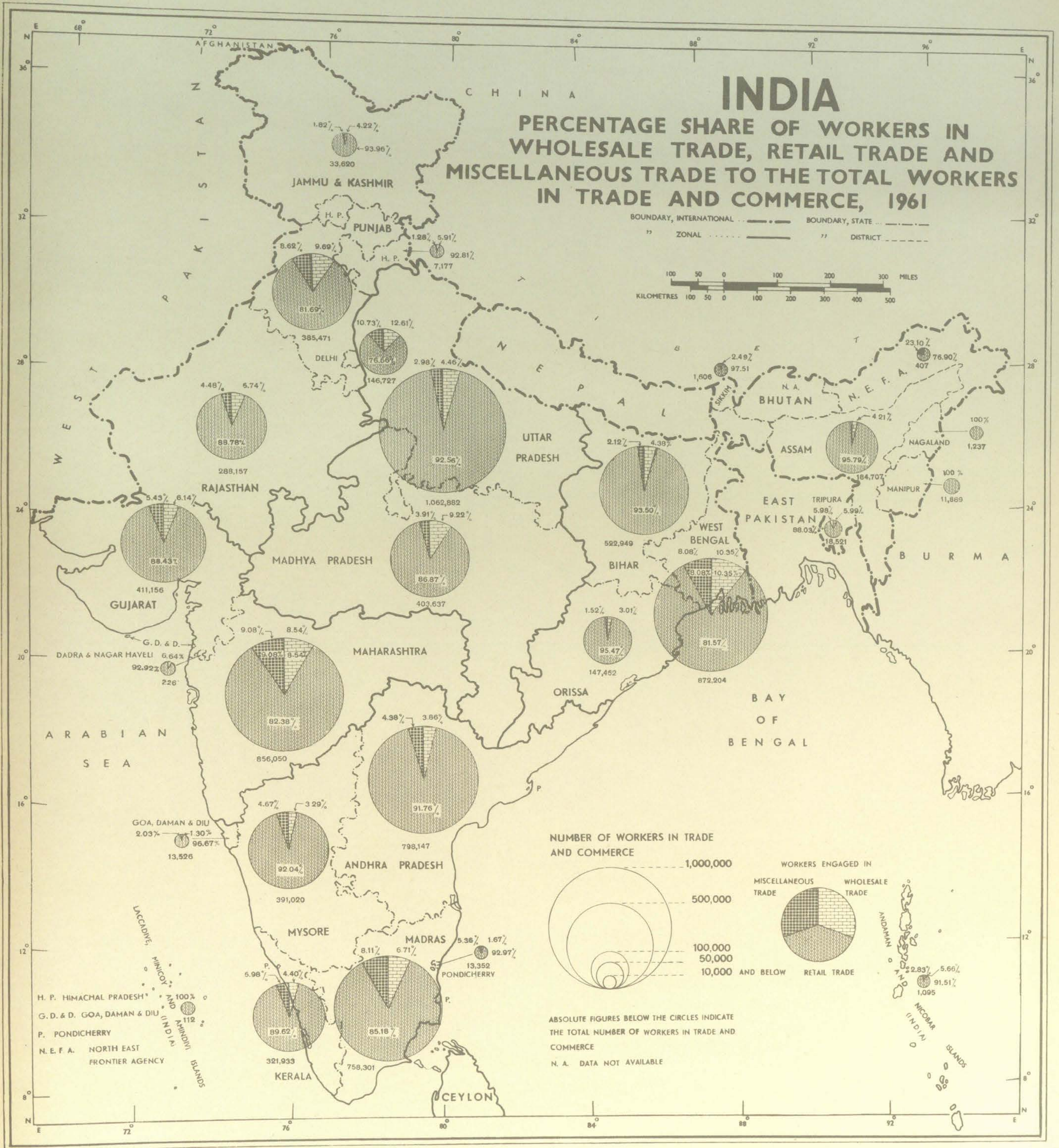
Salient Features : A glance at the map reveals that a major proportion of workers in all the States/Union Territories is engaged in retail trade. In the Union Territories of Nagaland, Manipur and Laccadive, Minicoy and Amindivi Islands, the entire number of workers in trade and commerce is engaged in retail trade. In all, the six agrarian States in the country, namely, Uttar Pradesh, Bihar, Assam, Orissa, Mysore and Andhra Pradesh, the proportion of workers in retail trade is more than 90%. Percentage of workers in

retail trade is more than 90% in the State of Jammu and Kashmir and Union Territories of Dadra & Nagar Haveli, Goa, Daman and Diu, Pondicherry and Himachal Pradesh.

The proportion of workers in wholesale trade is only 6.47% as compared to 87.90% in retail trade for the country as a whole. The highest percentage of workers in wholesale trade is shared by the Union Territory of Delhi (12.61%) followed by the State of West Bengal (10.35%) and Punjab (9.69%). Among the States, the lowest percentage of workers in wholesale trade is observed in Orissa (3.01%) and among Union Territories—North-East Frontier Agency shows the lowest percentage (0.25%).

In five States (Andhra Pradesh, Kerala, Madras, Maharashtra and Mysore) and three Union Territories (Goa, Daman and Diu, Pondicherry and North-East Frontier Agency), the percentage share of workers in miscellaneous trade exceeds that in wholesale trade. The highest percentage of workers in miscellaneous trade is observed in the Union Territory of North-East Frontier Agency (22.85%) followed by the Union Territory of Delhi (10.73%) and the States of Maharashtra (9.08%), Punjab (8.62%), Madras (8.11%) and West Bengal (8.08%). Among the States, the lowest percentage of workers in miscellaneous trade is observed in Assam (0.45%). In Sikkim, the percentage of workers in miscellaneous trade is negligible (0.06%). It is interesting to note that miscellaneous trade has developed as a supplement to wholesale trade in highly urbanised and industrialised centres.

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.



Services

**PERCENTAGE OF WORKERS IN SERVICES TO TOTAL WORKING
POPULATION, 1961**

Purpose : This map shows the proportion of workers in services to total working population in all the districts in 1961.

Method : Districtwise percentage figures of workers in services to total working population are calculated and are shown in the map by choropleth method by grouping the data into six categories—two above, one nearer to and three below the National Average (10.37%) as shown in the legend of the map.

Salient Features : According to 1961 Census, out of a total of 188.68 million workers, 19.57 millions were engaged in services. The distribution of workers in services is very uneven. While the Union Territory of N.E.F.A. shows a percentage of workers in services as high as 84.76%, that of Barmer district of Rajasthan records only 1.95%.

There are 52 districts where the percentages of workers in services are very high (above 15.00%). This high range of workers in services is observed in the metropolitan districts of Calcutta, Greater Bombay and Madras; Punjab Plain, Ganga-Yamuna *doab* area, Kerala State, western part of Madras and the Union Territory of Delhi. The same phenomenon is noticed in such districts where the State Capitals are located i.e., Lucknow in Uttar Pradesh, Hyderabad in Andhra Pradesh, Bangalore in Mysore, Ahmedabad in Gujarat, Srinagar in Jammu and Kashmir and United Khasi and Jaintia Hills in Assam. In all these areas, because of large number of government offices, a considerable number of persons are engaged in administrative jobs.

31 districts fall in the next range having percentages of workers in services between 12.51—15.00. The largest number of districts under this range are in Orissa (5) followed by Gujarat and West Bengal (4 each), Madras and Uttar Pradesh (3 each) and Rajasthan (2).

In 56 districts, the percentages of workers in services to total working population fall under the range 10.01—12.50 which is nearer to the National Average (10.37%). These districts form three distinct regions in the southern peninsula—(i) coastal region in Andhra Pradesh between Visakhapatnam and Guntur districts (ii) eastern Karnataka Plateau extending from Bidar to Bellary districts of Mysore and (iii) a compact area comprising of North Arcot, Salem, Tiruchirapalli and Ramanathapuram districts in Madras and Mysore district in Mysore State. In the northern part, the districts of Hoshangabad, Narsimhapur, Damoh and Chhatarpur in Madhya Pradesh and Hamirpur, Jalaun and Etawah districts in Uttar Pradesh form a distinct tract. A few other pockets are visible in Punjab Plain, Saurashtra and Hooghly basin.

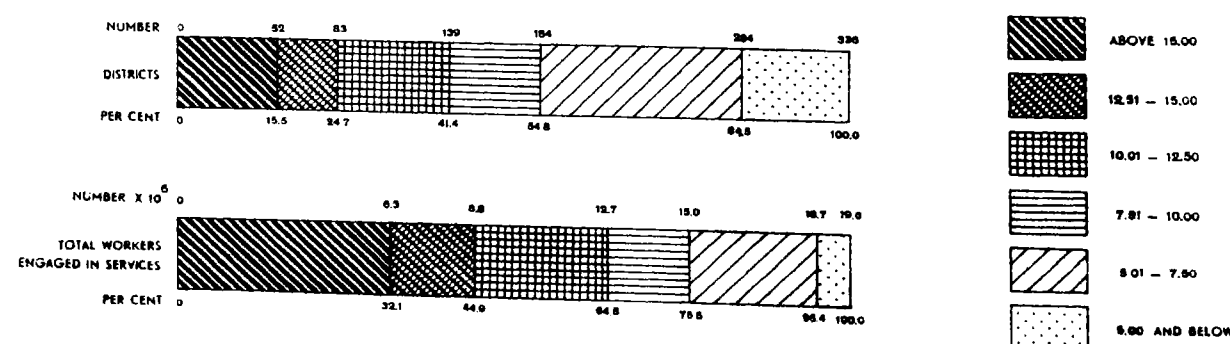
There are 45 districts where the percentages of workers engaged in services are between 7.51 and 10.00. These districts are mostly in Uttar Pradesh, Konkan Coast, Chotanagpur Plateau and north Bengal area.

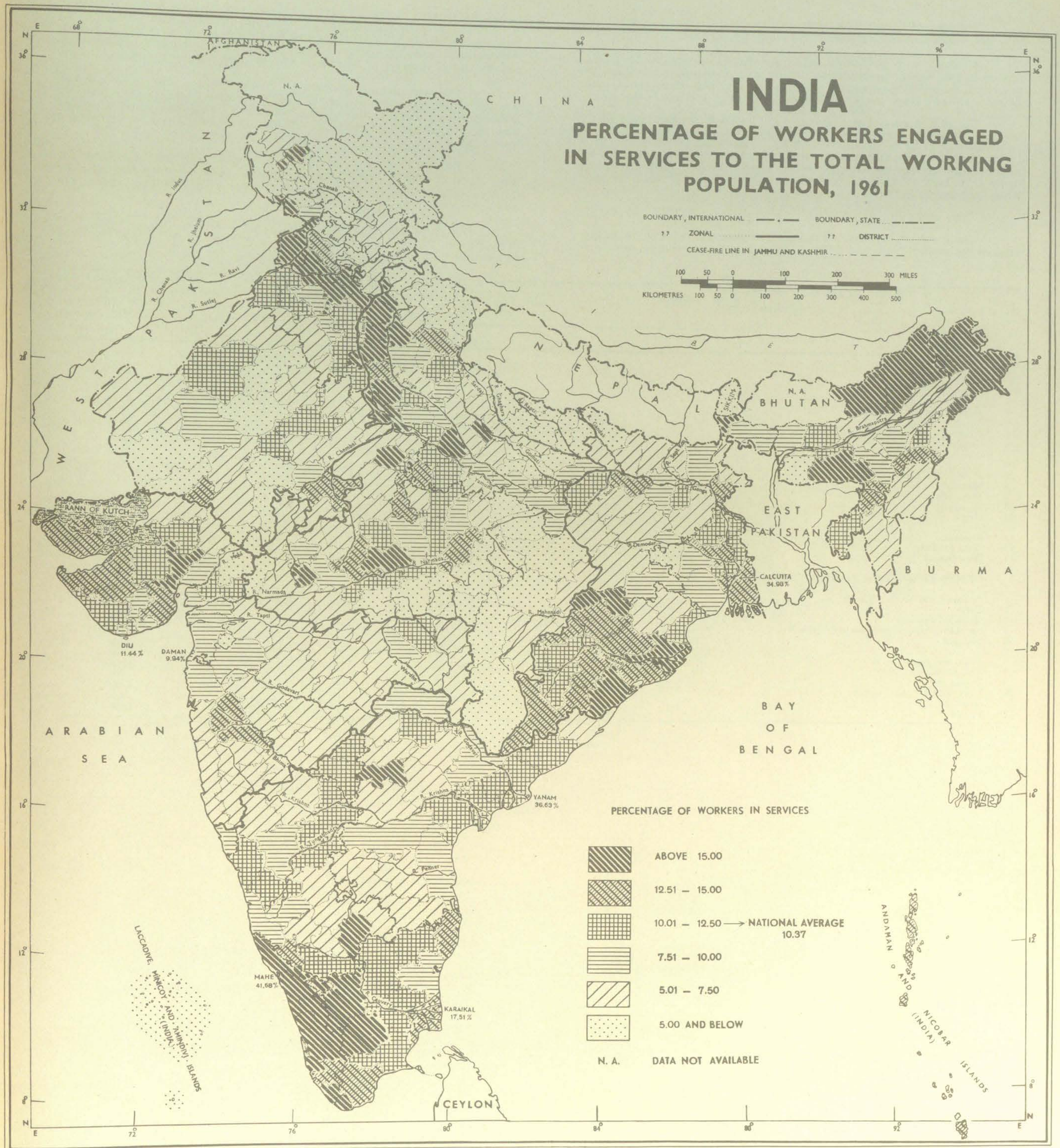
The percentages of workers engaged in services are low in 100 districts (5.01—7.50%). These are more frequent in Maharashtra (20), Madhya Pradesh (15), Rajasthan (11), Andhra Pradesh and Bihar (9 each) and Mysore (7). Except Maharashtra, all these States are primarily agrarian in nature with limited industrial and commercial activities. This has, perhaps, resulted in such low percentages of workers in services.

In 52 districts of the country, the percentages of workers in services are very low (5.00% and below). These districts lie mostly in the hilly and forested areas of the country, such as, western Himalayas, forested Hills and Plateaus in eastern Madhya Pradesh, Aravalli Hills and Rajasthan desert area. In all these areas, due to absence of industrial-cum-commercial development and communication facilities, the people have no other alternative but to fall back on agriculture, livestock and household industries. This has resulted in very low proportions of workers in services in these areas.

Sl. No.	State/Union Territory	Total workers 1961	Workers engaged in services 1961	Percentage of workers engaged in services to total workers 1961
1	2	3	4	5
INDIA		188,675,500	19,572,474	10.37
STATES				
1	Andhra Pradesh	18,663,042	1,731,585	9.28
2	Assam	5,137,411	424,251	8.26
3	Bihar	19,234,565	1,456,306	7.57
4	Gujarat	8,474,588	846,653	9.99
5	Jammu and Kashmir	1,523,621	141,657	9.30
6	Kerala	5,630,333	1,423,293	25.28
7	Madhya Pradesh	16,929,177	1,098,127	6.49
8	Madras	15,351,621	2,357,573	15.36
9	Maharashtra	18,948,481	1,617,031	8.54
10	Mysore	10,726,346	1,004,630	9.37
11	Orissa	7,661,529	1,025,968	13.39
12	Punjab	7,101,146	931,377	13.11
13	Rajasthan	9,583,840	678,614	7.08
14	Uttar Pradesh	28,850,141	2,710,081	9.39
15	West Bengal	11,580,195	1,549,637	13.38
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	31,194	4,295	13.77
2	Delhi	854,451	364,312	42.64
3	Himachal Pradesh	805,487	39,278	4.88
4	Laccadive, Minicoy and Amindivi Islands	12,449	553	4.44
5	Manipur	357,920	23,323	6.52
6	Tripura	437,229	47,851	10.94
7	Dadra and Nagar Haveli	34,794	714	2.05
8	Goa, Daman and Diu	258,138	24,064	9.32
9	Pondicherry	138,370	24,718	17.86
10	North-East Frontier Agency	26,164	22,177	84.76
11	Nagaland	219,310	19,759	9.01
12	Sikkim	103,958	4,647	4.47

Source : Census of India, 1961, Vol. I, India, Part II-A(ii)—Union Primary Census Abstracts.





MAP 137

PERCENTAGE OF WORKERS IN PUBLIC SERVICES
TO TOTAL WORKERS IN SERVICES, 1961

Purpose : This map shows districtwise variation in the proportions of workers engaged in public services to total workers in services.

Method : The districtwise percentage figures of workers in public services to total workers in services are calculated and shown in the map by choropleth method by grouping the data into six categories—three above, one nearer to and two below the National Average (17.34%) as shown in the index.

Salient Features : Out of a total of 19.57 million workers engaged in services, 3.39 million workers (17.34%) are engaged in public services.

A glance at the map reveals that the percentages of workers engaged in public services are very unevenly distributed in the country. The percentage figure is as high as 83.66 in North-East Frontier Agency while Baudh-Khondmals district in Orissa records only 3.38.

There are 23 districts which fall under the next range (25.01—30.00%).

There are 56 districts where the percentages of workers in public services are between 20.01 and 25.00. These districts are mainly found in

northern Maharashtra Plateau and its contiguous districts in Madhya Pradesh, Assam Valley, Telangana Plateau, Kathiawar Peninsula and north-eastern Rajasthan and Chambal Valley region of Madhya Pradesh. Besides these areas, there are some scattered pockets in West Bengal, Punjab, Uttar Pradesh, Bihar and the Union Territory of Laccadive, Minicoy and Amindivi Islands.

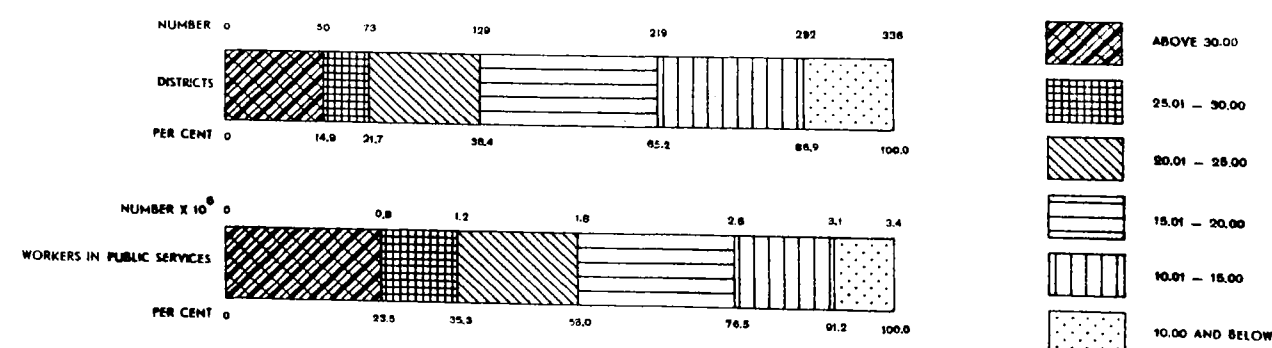
A very large number of districts fall in the range 15.01—20.00% which is nearer to the National Average (17.34%). These districts form compact blocks in Punjab Plain, southern part of Kathiawar Peninsula, Gujarat Plain, south-eastern part of Maharashtra Plateau, Upper Mahanadi Basin and Konkan Coast.

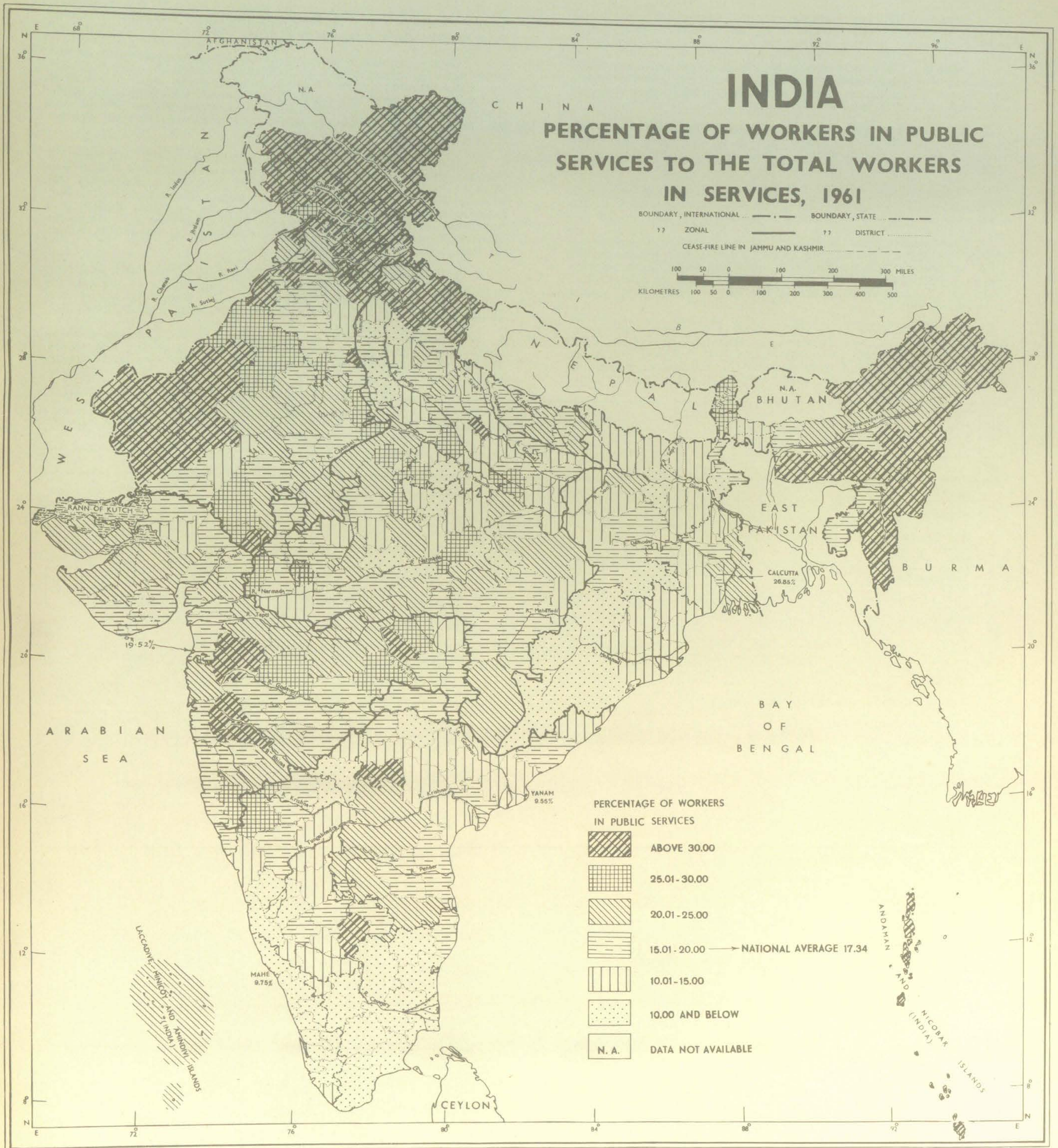
73 districts record the percentages of workers in Public services in the range (10.01—15.00%). The largest number of districts under this range are found in Uttar Pradesh (17) followed by Bihar (12), Madhya Pradesh (9), Andhra Pradesh and Mysore (8 each) etc.

44 districts fall in the lowest range (10.00% and below). Concentration of districts in this range will be found in the southernmost part of the Peninsula and western part of Orissa State.

Sl. No.	State/Union Territory	Total workers in services 1961	Workers in public services (Major Group 80) 1961	Percentage of workers in public services to total workers in services 1961
1	2	3	4	5
	INDIA	19,572,474	3,394,193	17.34
	STATES			
1	Andhra Pradesh	1,731,585	292,338	16.88
2	Assam	424,251	105,442	24.85
3	Bihar	1,456,306	196,619	13.50
4	Gujarat	846,653	164,013	19.37
5	Jammu and Kashmir	141,657	55,522	39.19
6	Kerala	1,423,293	98,121	6.89
7	Madhya Pradesh	1,098,127	204,096	18.59
8	Madras	2,357,573	208,821	8.86
9	Maharashtra	1,617,031	385,831	23.86
10	Mysore	1,004,630	172,522	17.17
11	Orissa	1,025,968	88,613	8.64
12	Punjab	931,377	235,550	25.29
13	Rajasthan	678,614	159,557	23.51
14	Uttar Pradesh	2,710,081	476,525	17.58
15	West Bengal	1,549,637	302,564	19.52
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	4,295	1,932	44.98
2	Delhi	364,312	168,933	46.37
3	Himachal Pradesh	39,278	15,731	40.03
4	Laccadive, Minicoy and Amindivi Islands	553	131	23.69
5	Manipur	23,323	8,293	35.56
6	Tripura	47,851	9,529	19.91
7	Dadra and Nagar Haveli	714	195	27.31
8	Goa, Daman and Diu	24,064	4,698	19.52
9	Pondicherry	24,718	3,935	15.92
10	North-East Frontier Agency	22,177	18,554	83.66
11	Nagaland	19,759	14,758	74.69
12	SIKKIM	4,647	1,370	29.48

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





MAP 138

PERCENTAGE OF WORKERS IN EDUCATIONAL AND SCIENTIFIC SERVICES TO THE TOTAL WORKERS IN SERVICES, 1961

Purpose : This map shows the proportion of workers in educational and scientific services to total workers in services in each of the districts in India in 1961.

Method : The services rendered by schools, colleges and similar other institutions of technical, vocational and non-technical type; scientific services and research institutions not capable of classification under types of services mentioned earlier are included in this group.

The districtwise percentages of the workers in educational and scientific services are grouped into six ranges—three above, one nearer to and two below the National Average (9.25%). These ranges are shown by graded shades as indicated in the legend to the map.

Salient Features : Out of a total of 19.57 million workers engaged in services, only 9.25% are engaged in the educational and scientific services. The districtwise percentages vary from 31.57% in Manipur to 1.66% in N.E.F.A.

In 34 districts, more than 15.00% of the total workers in services are engaged in educational and scientific services. A large number of these districts are in Maharashtra State lying almost in two distinct blocks—in the northern region, a block stretching from Nagpur to Dhulia comprising 6 districts and in the south western region embracing Ratnagiri, Kolhapur, Sangli, Satara and Sholapur districts.

The districts where the percentages of the workers in educational and scientific services to total workers in services range between 13.01 and 15.00 are 40 in number. These are mostly located in Baghelkhand Plateau (3), southern Gujarat Plains (4), Karnataka Plateau (4), Maharashtra Plateau (5), Chambal Valley (3), southern Bengal Plain (2), eastern part of Uttar

Pradesh (3), western Himalayas (5), central Rajasthan (3) and southern Madhya Pradesh (5). The remaining three districts are: Garo Hills in Assam, South Kanara in Mysore and Ranchi in Bihar.

These percentages in respect of 48 districts range between 11.01 and 13.00, which lie mostly in the western half of the country. These are more concentrated in the north western hill and in Rajasthan desert areas. The state of Madhya Pradesh has the highest number (8) followed by Rajasthan and Maharashtra (7 each), Uttar Pradesh (4), Jammu and Kashmir, Mysore, Punjab and West Bengal (3 each), Andhra Pradesh, Assam, Kerala and Himachal Pradesh (2 each) and Gujarat and Pondicherry (1 each).

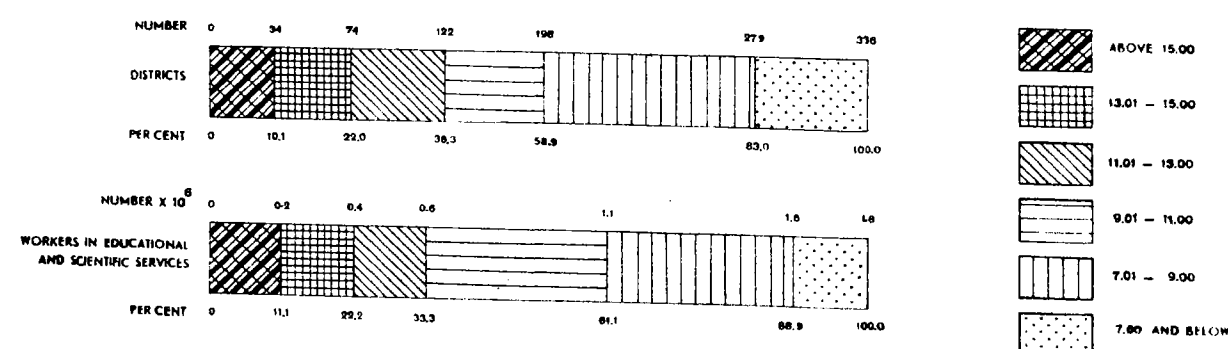
76 districts fall in the next range of 9.01 to 11.00%. Of these, 38 districts lie in the northern part (11 districts in Uttar Pradesh, 7 in Punjab, 6 in Bihar, 3 in Jammu and Kashmir, 5 in West Bengal and 6 in Rajasthan) and 14 districts in the State of Madhya Pradesh alone. The regions in the south falling in this percentage range are: Rayalaseema (4), Telangana Plateau (11) and coastal areas in Andhra Pradesh (3). The other areas are: Tamilnad Plains (3), Karnataka Plateau (4), Kathiawar Peninsula (4), Orissa (2), Assam (1), Tripura (1) and Maharashtra (1).

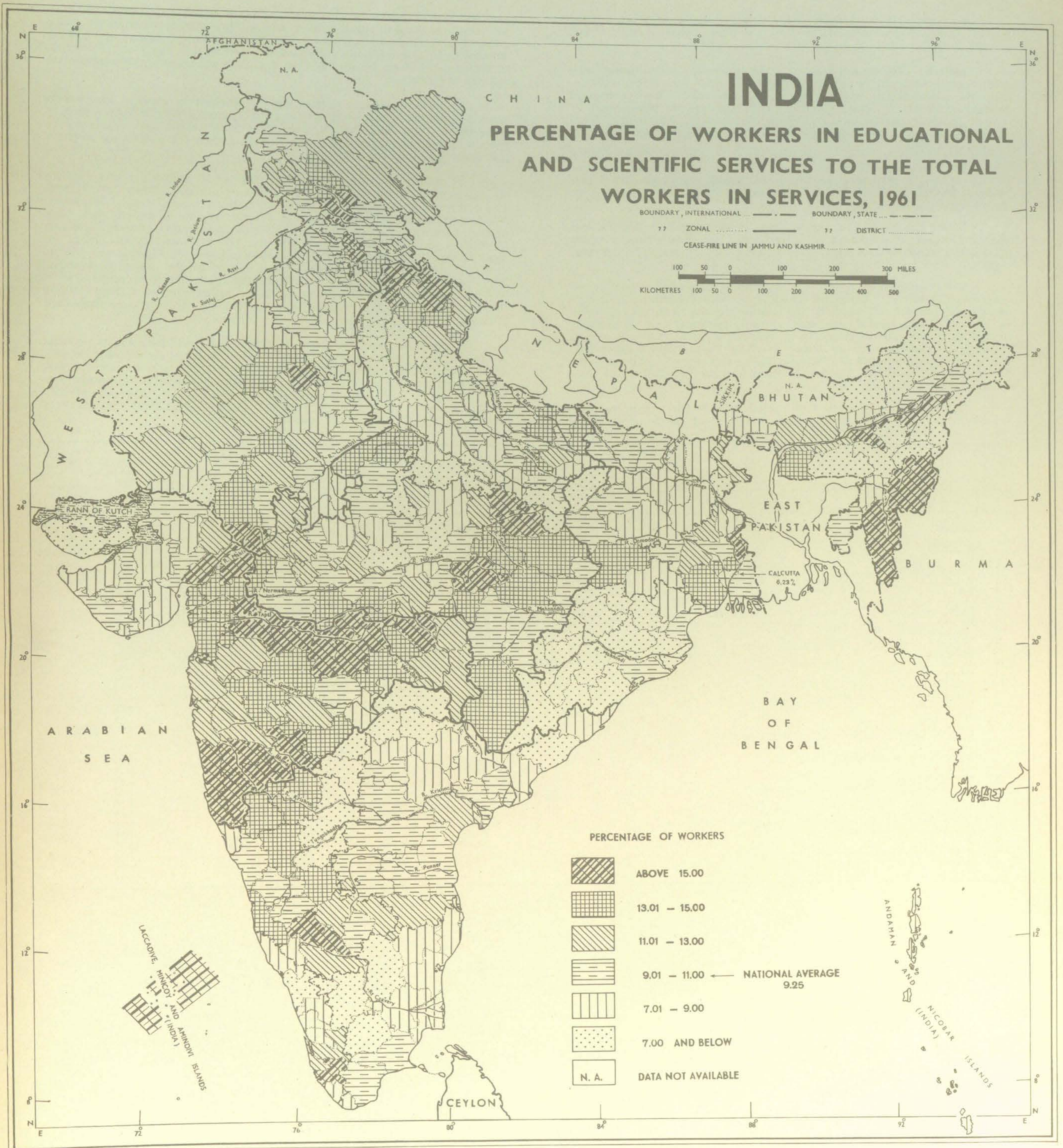
The percentages of workers in educational and scientific services to total workers in services in the next range 7.01—9.00 are mainly in the northern part of the country and account for 81 districts. The three States where such districts are more numerous are: Uttar Pradesh (16), Bihar (9) and Punjab (8).

57 districts record very low percentage figures of workers in educational and scientific services to total workers in services (7.00% and below). The State of Orissa stands out as the single state having as many as 10 districts in this low range.

Sl. No.	State/Union Territory	Total workers in services 1961	Workers in educational and scientific services (major group 81) 1961	Percentage of workers in educational and scientific services to total workers in services 1961
1	2	3	4	5
INDIA	...	19,572,474	1,811,344	9.25
STATES				
1 Andhra Pradesh	...	1,731,585	150,805	8.71
2 Assam	...	424,251	49,431	11.65
3 Bihar	...	1,456,306	131,058	9.00
4 Gujarat	...	846,653	93,400	11.03
5 Jammu and Kashmir	...	141,657	11,131	7.86
6 Kerala	...	1,423,293	131,352	9.23
7 Madhya Pradesh	...	1,098,127	126,851	11.55
8 Madras	...	2,357,573	178,216	7.56
9 Maharashtra	...	1,617,031	200,462	12.40
10 Mysore	...	1,004,630	105,957	10.55
11 Orissa	...	1,025,968	57,094	5.56
12 Punjab	...	931,377	87,550	9.40
13 Rajasthan	...	678,614	72,091	10.62
14 Uttar Pradesh	...	2,710,081	213,894	7.89
15 West Bengal	...	1,549,637	148,662	9.59
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	4,295	352	8.20
2 Delhi	...	364,312	28,928	7.94
3 Himachal Pradesh	...	39,278	5,712	14.54
4 Laccadive, Minicoy and Amindivi Islands	...	553	146	26.40
5 Manipur	...	23,323	7,363	31.57
6 Tripura	...	47,851	5,126	10.71
7 Dadra and Nagar Haveli	...	714	133	18.63
8 Goa, Daman and Diu	...	24,064	1,954	8.12
9 Pondicherry	...	24,718	2,082	8.42
10 North-East Frontier Agency	...	22,177	368	1.66
11 Nagaland	...	19,759	972	4.92
12 SIKKIM	...	4,647	254	5.47

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





**PERCENTAGE OF WORKERS IN MEDICAL AND HEALTH SERVICES
TO TOTAL WORKERS IN SERVICES, 1961**

Purpose : This map shows the proportion of workers engaged in medical and health services to total workers in services in each district of the country in 1961.

Method : The services included in this group are : public health and medical services rendered by organisations and individuals, such as, by hospitals, sanatoria, nursing homes, maternity and child welfare clinics; services rendered by Hakimi, Unani, Ayurvedic, Allopathic and Homeopathic practitioners as well as veterinary services rendered by organisations and individuals. These services correspond to the major group 82 of the Indian Standard Industrial Classification, 1961.

The districtwise percentages of workers in medical and health services to total workers in services are grouped into six ranges—three above, one nearer to and two below the National Average (3.29%) which are shown in the map by six grades of shading.

Salient Features : The Union Territory of Laccadive, Minicoy and Amindivi Islands and the district of United Khasi and Jaintia Hills in Assam State record respectively the highest (11.03%) and the lowest (0.52%) percentages.

The percentages of workers in the highest range (above 6.00%) are observed in 17 districts. Except the Union Territories of Laccadive, Minicoy and Amindivi Islands and Andaman and Nicobar Islands, these are noticeable in the north of 20th parallel in the map. Broadly speaking, these percentages of workers are found in two categories of districts; one having high proportions of workers in services, such as, Bijnor in Uttar Pradesh and Gwalior and Indore in Madhya Pradesh and the other having very insignificant proportions like Rewa in Madhya Pradesh and Banswara in Rajasthan as can be seen with reference to Map No. 136.

The percentages of workers in medical and health services to total workers in services falling in the next range 5.01—6.00 mostly occur in the

northern part of the country. In most of these districts, low proportions of workers are engaged in services as a whole, the majority of workers being engaged in agricultural activities. The metropolitan districts of Greater Bombay (5.31%) and Madras (5.53%) which fall in this range are, however, exception to the above because in these districts a good number of workers are engaged in services.

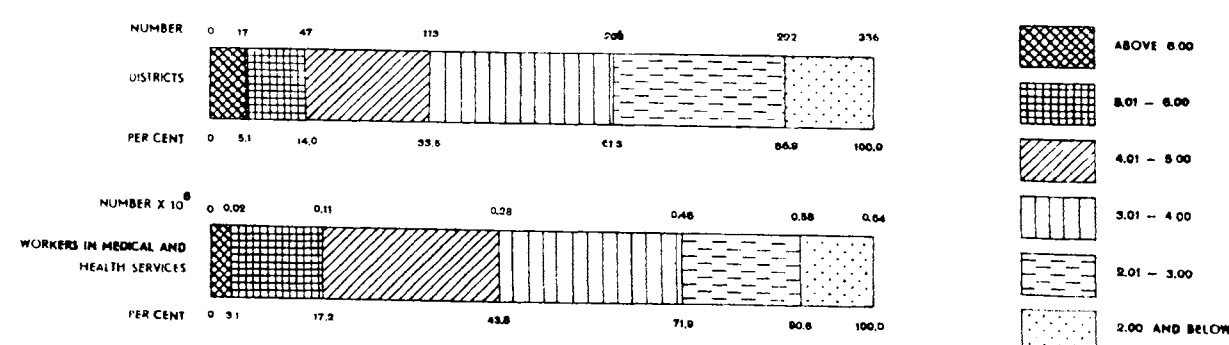
66 districts have the proportions of workers in medical and health services in the third range (4.01—5.00%). 10 districts of West Bengal, 6 each of Rohilkhand Plains and Punjab, 3 each of Bihar Plain and Maharashtra Plateau form more or less continuous stretches while the remaining districts are scattered all over the country.

93 districts come under the fourth range (3.01—4.00%). Two regions covered by these districts are worth mentioning—(i) A continuous belt embracing 4 districts of Mysore, 11 districts of Andhra Pradesh and 3 districts of Madhya Pradesh in peninsular part and (ii) The strip running along right bank of river Yamuna in north-western Madhya Pradesh (3), north-eastern Rajasthan (4), eastern part of Punjab State (4) and the Union Territory of Delhi. A large number of districts in Uttar Pradesh (15), Bihar (8), Gujarat and Maharashtra (7 each) also exhibit the percentages nearer to the National Average. There are 86 districts (including SIKKIM) belonging to the next range (2.01—3.00%). The State of Uttar Pradesh shares the largest number of these districts (19) followed by Madhya Pradesh (9), Madras (8), Gujarat and Rajasthan (7 each), Maharashtra (6) etc.

The percentages of workers in health and medical services to total workers in services in 44 districts fall in the last range (2.00 % and below). These districts are mostly scattered except in the State of Orissa where 10 districts form a compact block. The remaining districts falling in this range are: 7 in Uttar Pradesh; 4 in Madhya Pradesh; 3 each in Kerala, Madras, Mysore and Pondicherry; 2 each in Andhra Pradesh, Gujarat, Rajasthan, Goa, Daman and Diu and Nagaland and 1 in Assam.

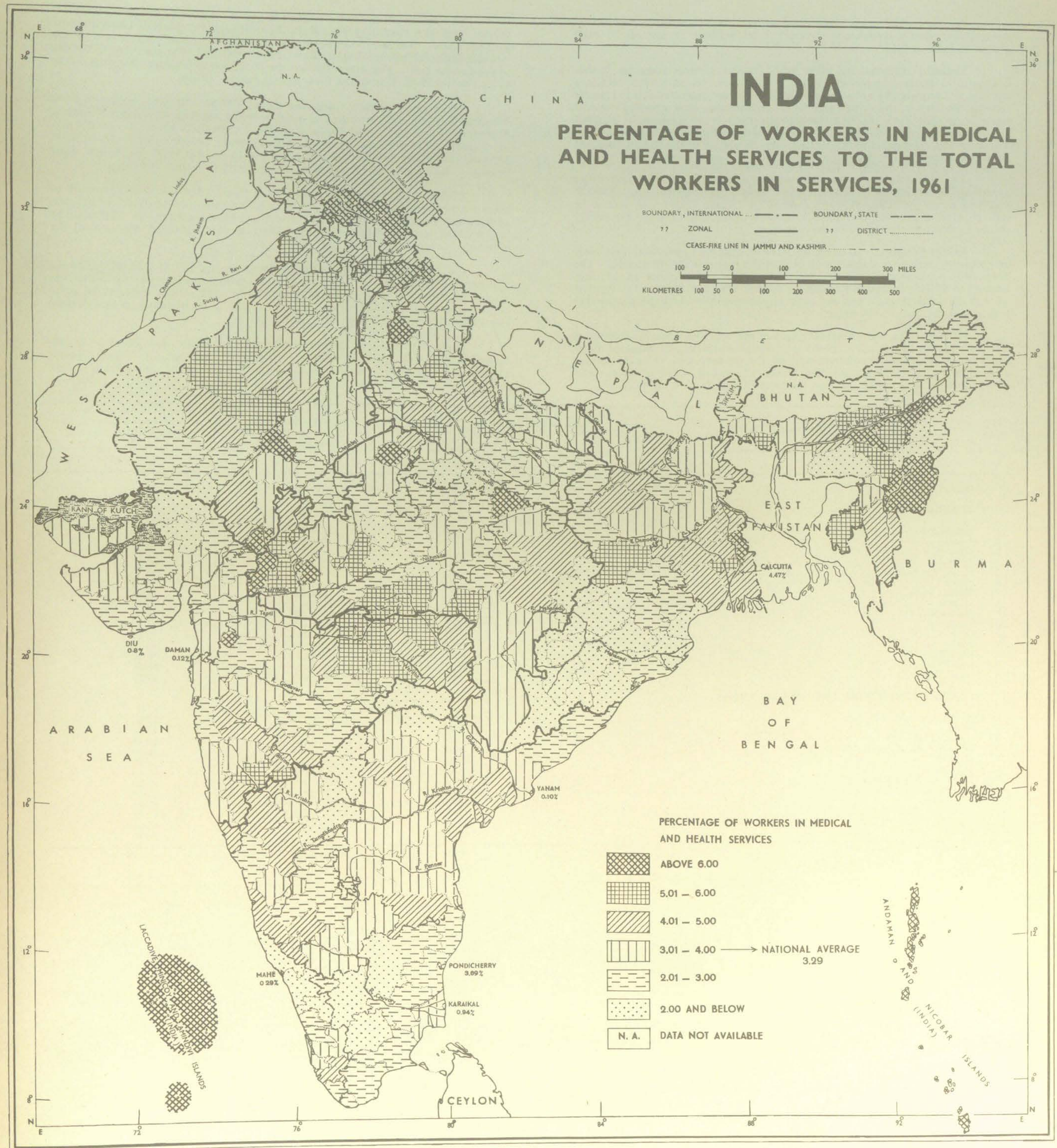
Sl. No.	State/Union Territory	Total workers in services 1961	Workers in medical and health services (major group 82) 1961	Percentage of workers in medical and health services to total workers in services 1961
1	2	3	4	5
INDIA		19,572,474	644,895	3.29
STATES				
1	Andhra Pradesh	1,731,585	58,928	3.40
2	Assam	424,251	17,833	4.20
3	Bihar	1,456,306	52,215	3.59
4	Gujarat	846,653	26,411	3.12
5	Jammu and Kashmir	141,657	3,593	2.54
6	Kerala	1,423,293	37,082	2.61
7	Madhya Pradesh	1,098,127	41,508	3.32
8	Madras	2,357,573	55,349	2.35
9	Maharashtra	1,617,031	69,340	4.29
10	Mysore	1,004,630	32,824	3.27
11	Orissa	1,025,968	14,443	1.41
12	Punjab	931,377	38,243	4.11
13	Rajasthan	678,614	26,007	3.83
14	Uttar Pradesh	2,710,081	77,950	2.88
15	West Bengal	1,549,637	69,475	4.48
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	4,295	399	9.28
2	Delhi	364,312	13,753	3.78
3	Himachal Pradesh	39,278	1,944	4.95
4	Laccadive, Minicoy and Amindivi Islands	553	61	11.03
5	Manipur	23,323	1,483	6.39
6	Tripura	47,851	2,724	5.69
7	Dadra and Nagar Haveli	714	31	4.34
8	Goa, Daman and Diu	24,064	1,084	4.50
9	Pondicherry	24,718	1,242	5.02
10	North-East Frontier Agency	22,177	493	2.22
11	Nagaland	19,759	354	1.79
12	SIKKIM	4,647	126	2.71

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.



INDIA

PERCENTAGE OF WORKERS IN MEDICAL AND HEALTH SERVICES TO THE TOTAL WORKERS IN SERVICES, 1961



MAP 140

PERCENTAGE OF WORKERS IN PERSONAL AND OTHER MISCELLANEOUS SERVICES TO TOTAL WORKERS IN SERVICES, 1961

Purpose : This map depicts the proportion of workers engaged in personal and other miscellaneous services to total workers in services in each district in India in 1961.

Method : Personal and other miscellaneous services comprise household services rendered by servants, cooks, governesses, tutors, private secretary etc.; services rendered by hotels, boarding houses, cafes, restaurants etc.; laundry services rendered by individuals and by establishments; hair dressing services rendered by individuals and by establishments; the services rendered by portrait and commercial photographic studios and services not elsewhere classified. These services correspond to the major groups 88 and 89 of the Indian Standard Industrial Classification, 1961.

The districtwise percentages of workers engaged in personal and other miscellaneous services are grouped into six ranges—two above, one nearer to and three below the National Average (49.61%). These ranges are shown by different shades and the districts are hatched according to their percentage values as shown in the legend to the map.

Salient Features : In India, the workers engaged in personal and other miscellaneous services account for 49.61% of the total workers in services. The districtwise percentages vary from 8.02% in Chhatarpur district of Madhya Pradesh to 89.74% in Baudh-Khondmals district of Orissa State. The districts lying in the northern plain and east coast region generally show the percentages higher than the National Average.

In 59 districts, the workers engaged in personal and other miscellaneous services are more than 62.50% of the total workers in services. Most of these districts are located in the eastern part of the country and more important among the States are Orissa and Madras States from this point of view. The proportions are very high in Mysore, Bihar and Uttar Pradesh States also.

79 districts fall in the next range of (50.01—62.50%). These mostly lie in the northern part stretching from Rajasthan through Punjab and Uttar Pradesh to Bihar State. The second important concentration of such districts is in the Aravalli Hills and eastern Rajasthan which is practically the southern extension of the former belt. The other districts are scattered in Gujarat Plain, Konkan Coast, Bastar Hills, Karnataka Plateau and Assam Valley.

The districts falling under the range (37.51—50.00%) nearer to the National Average are distributed in overwhelming number in Andhra Pradesh, Maharashtra and Kathiawar Peninsula. Other than these areas, seven districts in Rajasthan, North-East Frontier Agency and its contiguous districts of Darrang, Nowgong and United Mikir and North Cachar Hills in Assam State belong to this category. In all, there are 68 districts within this range.

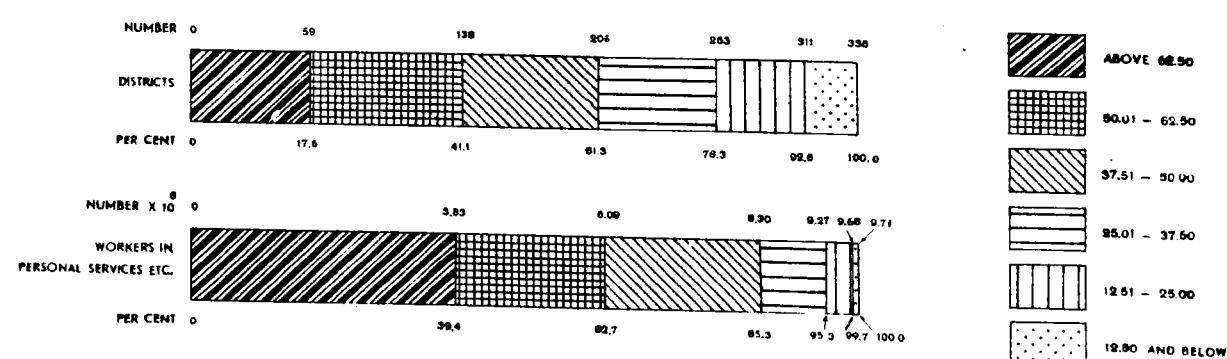
57 districts fall under the next lower range (25.01—37.50%). Some of them form compact area in the desert tract of Rajasthan comprising the districts of Bikaner, Jaisalmer, Barmer and Jodhpur; Marathwada in Maharashtra and Malnad area in Mysore. Other districts are scattered throughout the country.

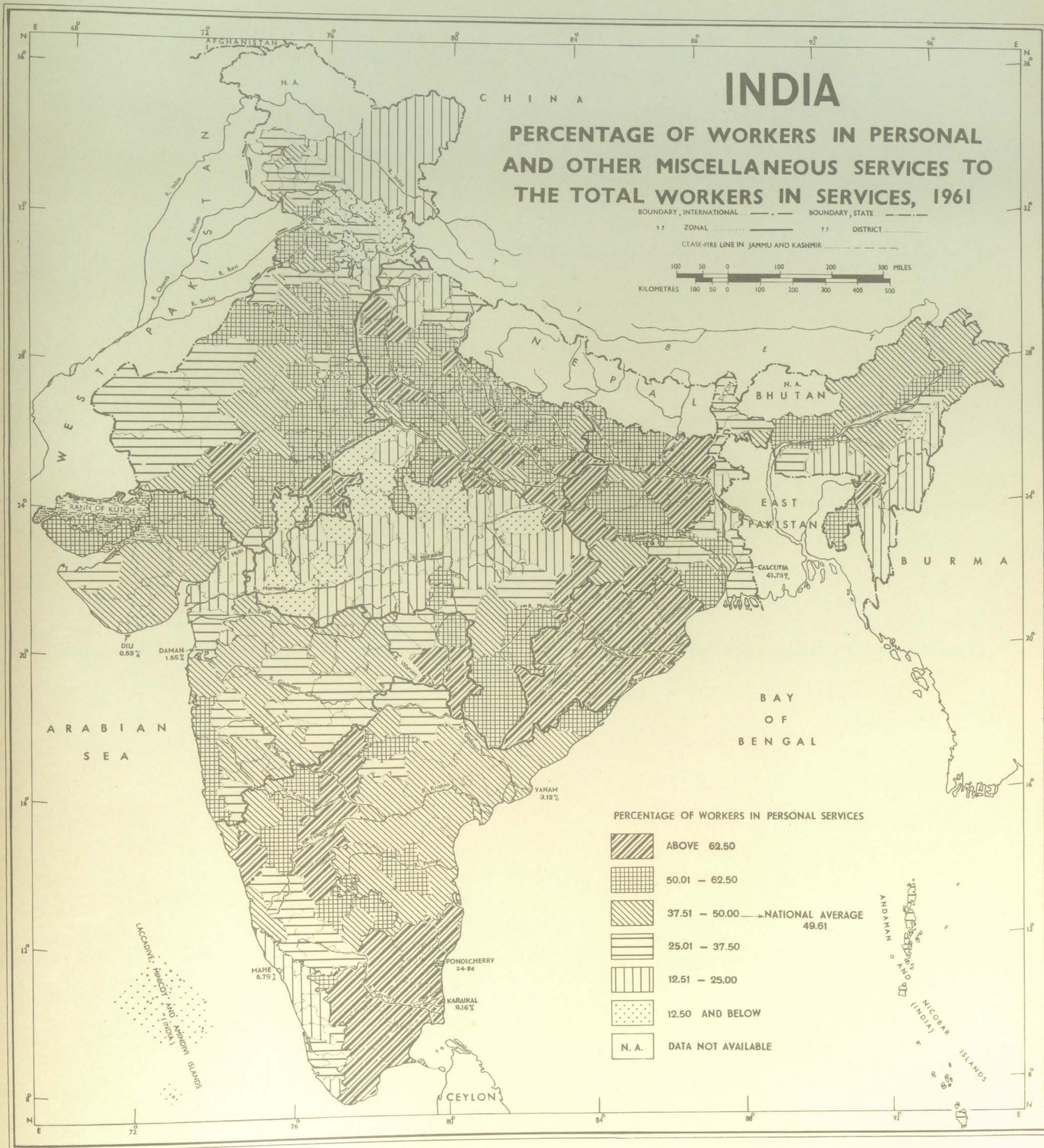
Of the 48 districts in the next lower range (12.51—25.00%), 23 are concentrated in Madhya Pradesh alone. It is worthnoticing that these districts do not belong to the central part of the peninsula. The other districts showing percentages under this range are in eastern hills and plateaus, north-western Himalayas, Kerala Coast and Gujarat Plains.

Only in 25 districts, the percentages of workers in personal and miscellaneous services fall under the lowest range (12.50% and below). These districts are concentrated more in northern and western parts of Madhya Pradesh and in some of the hill districts.

Sl. No.	State/Union Territory	Total workers in services 1961	Workers in personal and other miscellaneous services 1961	Percentage of workers in personal and other miscellaneous services to total workers in services 1961
1	2	3	4	5
INDIA		19,572,474	9,710,576	49.61
STATES				
1	Andhra Pradesh	1,731,585	759,322	43.85
2	Assam	424,251	203,173	47.89
3	Bihar	1,456,306	912,871	62.68
4	Gujarat	846,653	328,488	38.80
5	Jammu and Kashmir	141,657	56,617	43.46
6	Kerala	1,423,293	303,579	20.07
7	Madhya Pradesh	1,098,127	236,232	21.51
8	Madras	2,357,573	1,725,382	73.18
9	Maharashtra	1,617,031	704,401	43.56
10	Mysore	1,004,630	532,441	53.00
11	Orissa	1,025,968	813,407	79.28
12	Punjab	931,377	426,351	45.78
13	Rajasthan	678,614	340,560	50.18
14	Uttar Pradesh	2,710,081	1,525,003	56.27
15	West Bengal	1,549,637	651,891	42.07
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	4,295	1,433	33.36
2	Delhi	364,312	125,617	34.48
3	Himachal Pradesh	39,278	5,391	13.73
4	Laccadive, Minicoy and Amindivi Islands	553	59	10.67
5	Manipur	23,323	3,249	13.99
6	Tripura	47,851	27,096	56.63
7	Dadra and Nagar Haveli	714	167	23.39
8	Goa, Daman and Diu	24,064	12,017	49.94
9	Pondicherry	24,718	10,607	42.91
10	North-East Frontier Agency	22,177	927	41.80
11	Nagaland	19,759	3,093	15.65
12	SIKKIM	4,647	1,202	25.87

Source : Census of India, 1961, Vol. I, India, Part II-B(i)—General Economic Tables.





SOCIO-CULTURAL ASPECTS
Castes and Tribes

MAP 141

PERCENTAGE OF SCHEDULED CASTES TO THE TOTAL POPULATION, 1961

Purpose : This map shows the proportion of scheduled castes to the total population in each district, 1961.

Method : Variations in the distribution of the districtwise percentage figures are shown by choropleth method. They are grouped into five categories—three above, one nearer to and one below the National Average (14.67%). The districts where no scheduled castes population are found are left blank and 'N.A.' has been put in the districts for which data are not available.

Salient Features : 14.67% of the total population of India belongs to scheduled castes which is very unevenly distributed in the country. A glance at the map reveals that the country may well be divided into three distinct tracts—i) a region with high percentage of scheduled castes embracing the entire Northern Plain (excluding Santal Parganas district of Bihar) with adjoining hills and plateaus of Rajasthan and Madhya Pradesh, such as, Aravalli Hills, Malwa and Bundelkhand Plateaus, ii) a region with low percentage of scheduled castes, covering the entire West Coastal Plain, Kutch and Kathiawar Peninsula which protrude eastward upto the Brahmaputra Valley through the Vindhyan Scarplands, Ranchi Plateau etc. and iii) a region with high percentage of scheduled castes in the south and south-eastern part of the Deccan Plateau in Telangana and Rayalaseema Plateaus of Andhra Pradesh, southern Maidan Region of Mysore, Tamilnad Plateau of Madras and the hills and plateaus of Orissa.

There are 27 districts in the country where percentage of scheduled castes population exceeds 25.00. As mentioned earlier, except Chingleput and South Arcot districts of Madras Coast, all districts under this range occur in the northern part of the country. They form more or less two compact zones—one in the north-western Himalayas covering 5 districts of Himachal Pradesh and the other embracing 10 districts of Rohilkhand and Bundelkhand Plateaus. The remaining districts are scattered : 4 in West Bengal, 3 in Punjab and

1 each in Rajasthan, Uttar Pradesh and Bihar States.

43 districts fall in the next category of high percentage of scheduled castes population (20.01—25.00%). These districts are seen mostly in the foot-hill zone of western Himalayas in Punjab, Chambal Valley, parts of Ganga-Yamuna *doab*, Avadh Plain and lower Hooghly basin. In the southern part of the country, Kolar district of Mysore and Thanjavur district of Madras also fall under this category.

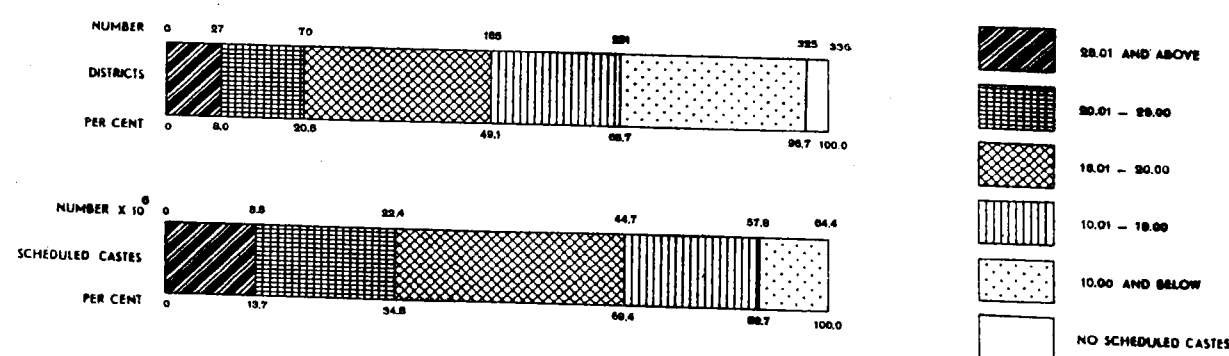
95 districts fall in the next range of 15.01—20.00% of scheduled castes to total population. These districts appear in the Northern Plain, Orissa hills and plateaus, Telangana Plateau, Southern Maidan, Tamilnad Plateau and Coast.

Percentages of scheduled castes population nearer to the National Average (10.01—15.00%) are observed in 66 districts. They form more or less compact units in western Rajasthan Plain, Rayalaseema Plateau area of Andhra Pradesh, Terai Region of Bihar and parts of Chhattisgarh basin in Madhya Pradesh. No definite pattern of distribution is discernible for the remaining ones.

There are 94 districts in the country with very low percentages of scheduled castes population. Their distribution is distinguished by a compact zone which stretches from Kutch and Kathiawar Peninsula in the north to the northern Malabar Coast in the south covering the entire West Coast. This zone stretches further eastward upto the Ranchi Plateau in a long and continuous tract through Northern Maidan, Upper Godavari-Krishna-Bhima basins, Wardha-Wain Ganga basin, Satpura Hills Region and Baghelkhand Plateau. Assam State (except Cachar district), Santal Parganas district of Bihar and the Union Territories of Manipur and Nagaland also exhibit very low percentages.

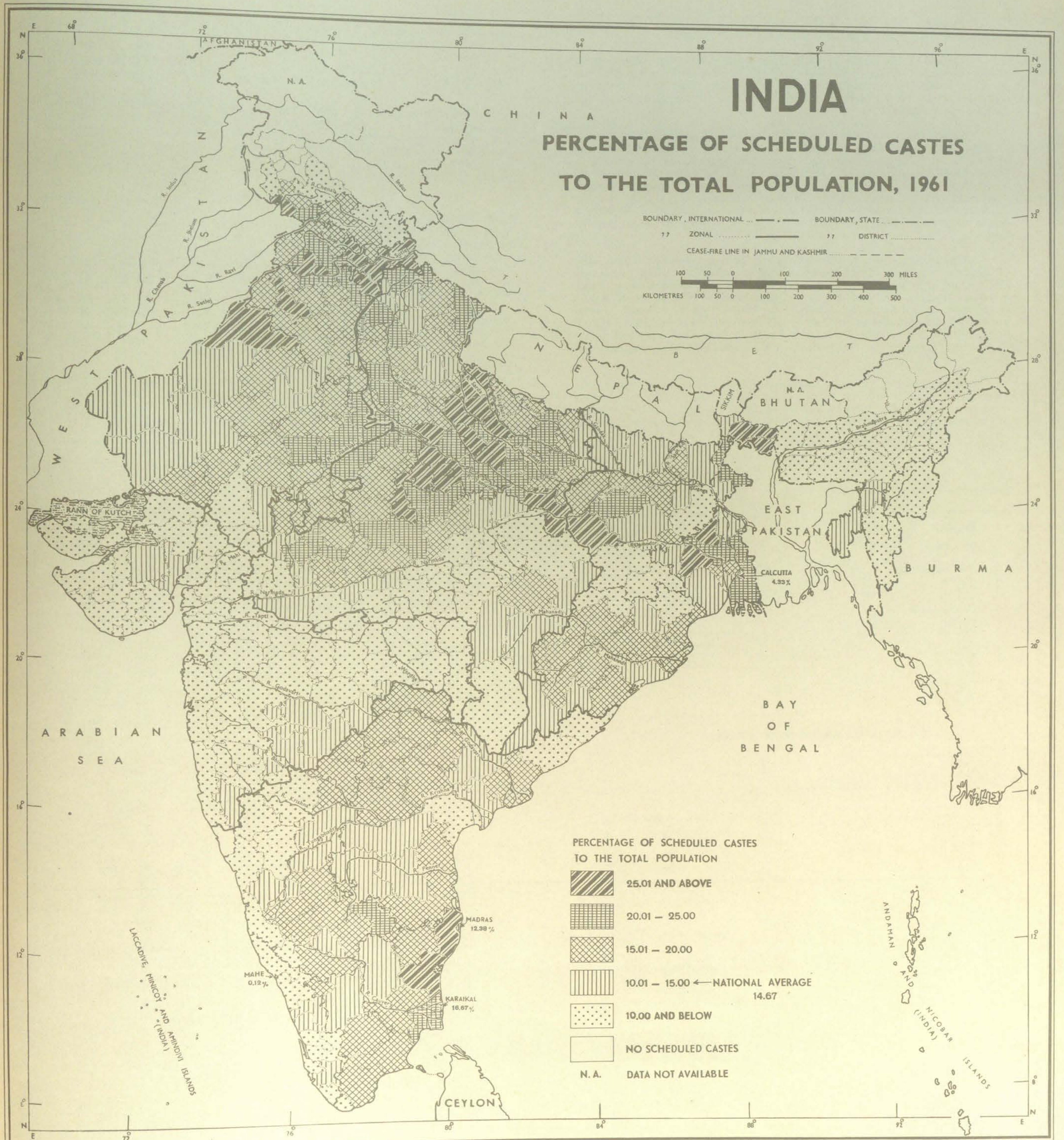
Sl. No.	State/Union Territory	Total population 1961	Scheduled castes population 1961	Percentage of scheduled castes population to total population 1961
1	2	3	4	5
INDIA		439,234,771	64,449,275	14.67
STATES				
1	Andhra Pradesh	35,983,447	4,973,616	13.82
2	Assam	11,872,772	732,756	6.17
3	Bihar	46,455,610	6,536,875	14.07
4	Gujarat	20,633,350	1,367,255	6.63
5	Jammu and Kashmir	3,560,976	284,131	7.98
6	Kerala	16,903,715	1,434,817	8.49
7	Madhya Pradesh	32,372,408	4,253,024	13.14
8	Madras	33,686,953	6,067,327	18.01
9	Maharashtra	39,553,718	2,226,914	5.63
10	Mysore	23,586,772	3,117,232	13.22
11	Orissa	17,548,846	2,763,858	15.75
12	Punjab	20,306,812	4,139,106	20.38
13	Rajasthan	20,155,602	3,359,640	16.67
14	Uttar Pradesh	73,746,401	15,399,881	20.88
15	West Bengal	34,926,279	6,890,314	19.73
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	63,548	...	...
2	Delhi	2,658,612	341,555	12.85
3	Himachal Pradesh	1,351,144	369,916	27.38
4	Laccadive, Minicoy and Amindivi Islands	24,108	...	...
5	Manipur	780,037	13,376	1.71
6	Tripura	1,142,005	119,725	10.48
7	Dadra and Nagar Haveli	57,963	985	1.70
8	Goa, Daman and Diu	626,667	...	...
9	Pondicherry	369,079	56,846	15.40
10	North-East Frontier Agency	336,558	...	...
11	Nagaland	369,200	126	0.04
12	Sikkim	162,189	...	...

Source : Census of India, 1961, Vol. I, India, Part V-A(i)—Special Tables For Scheduled Castes.



INDIA

PERCENTAGE OF SCHEDULED CASTES TO THE TOTAL POPULATION, 1961



**PERCENTAGE OF SCHEDULED TRIBES TO THE TOTAL
POPULATION, 1961**

Purpose : The map depicts the percentage of scheduled tribes to the total population for each of the districts in the country in 1961.

Method : The percentages have been grouped into five ranges—three above; one nearer to and one below the National Average (6.86%). Districts have been shaded by five different grades of hatching. The areas having no scheduled tribes are left blank and 'N.A.' is written in the areas for which data are not available.

Salient Features : According to 1961 Census, 30.13 millions of scheduled tribes have been enumerated which come to 6.86% of the total population of the country. They are concentrated mainly in the inaccessible forested hills in the eastern Himalayas and the eastern part of the Peninsular Plateau whereas the Punjab Plain and Ganga Valley which are the most densely populated parts in the country, are completely devoid of scheduled tribes. The Deccan Plateau, except for the north-western part; the semi-arid districts of Rajasthan; Kutch and Kathiawar Peninsula have a very low percentage of tribal population.

Out of 336 districts, (Sikkim) having been counted as a district, only 14 districts exhibit a very high percentage of scheduled tribes population (65.01% and above). Only one compact region is formed under this range, which embraces forested hills of N.E.F.A., Nagaland and 4 hill districts of Assam (Garo Hills, United Khasi and Jaintia Hills, United Mikir & North Cachar Hills and Mizo Hills districts). The remaining 6 districts are Bastar & Jhabua of Madhya Pradesh; Dangs of Gujarat; Lahaul & Spiti of Punjab and Union Territories of Dadra and Nagar Haveli and Laccadive, Minicoy and Amindivi Islands.

High percentages of tribal population (45.01—65.00%) are observed in 15 districts of the country. In this range, 9 contiguous districts form a compact block embracing Baghelkhand Plateau of Madhya Pradesh, northern plateau of Orissa and Ranchi Plateau of Bihar. Besides, Kinnaur district in Himachal

Pradesh, Koraput hills of Orissa, Dhar district of Madhya Pradesh, Dungarpur and Banswara districts of Rajasthan, Surat district in the Gujarat Plain have also very high concentration of scheduled tribes.

18 districts fall in the next range (25.01—45.00%), of them 5 are in Madhya Pradesh, 3 in Orissa and 2 each in Gujarat and Maharashtra.

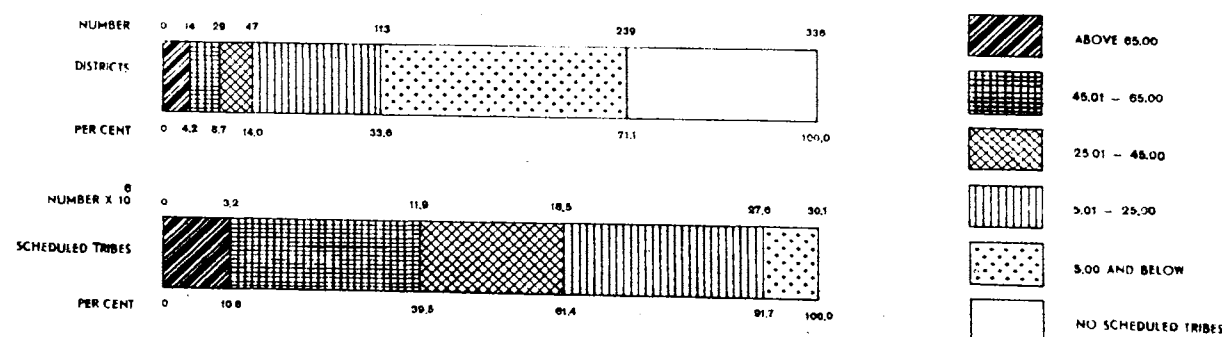
66 districts lie in the range (5.01—25.00%). These form more or less compact regions in the Chambal Valley, south-western Rajasthan, Aravalli hilly region, Upper Narmada Valley, parts of the Vindhyan scarplands, the entire Brahmaputra Valley in Assam, a few districts in Andhra Pradesh and Orissa Coasts, Wain Ganga-Godavari Valley in Andhra Pradesh and Maharashtra, a few districts in Gujarat Plain and the Andaman and Nicobar Islands.

126 districts show low percentages (5.00% and below) of tribal population. These districts are seen mostly on the south of the Godavari river. Except for Coorg district of Mysore State, Nellore and Adilabad districts of Andhra Pradesh State, four contiguous states of Andhra Pradesh, Madras, Mysore and Kerala and 11 districts in south-western Maharashtra State fall in this range. Besides the above, five compact regions are formed to the north of the river Godavari. These are Rajasthan Plain covering 11 districts, the entire Kutch and Kathiawar Peninsula with some adjoining districts in Gujarat Plain, south-eastern Malwa Plateau embracing 7 districts and middle and lower Ganga Valley consisting of 11 districts of Bihar State and 5 districts of West Bengal and Puri and Cuttack districts of Mahanadi Delta. A few districts in the hill terrain of Himachal Pradesh and West Bengal and Cachar district of Assam also show low percentages of tribal population.

Two States, viz., Uttar Pradesh and Jammu and Kashmir, a few districts of Madhya Pradesh (Sagar and Damoh) and Maharashtra (Buldhana, Akola, Wardha, Nagpur and Bhandara districts) and Union Territories of Delhi, Pondicherry, Goa, Daman and Diu and Sikkim have no tribal population.

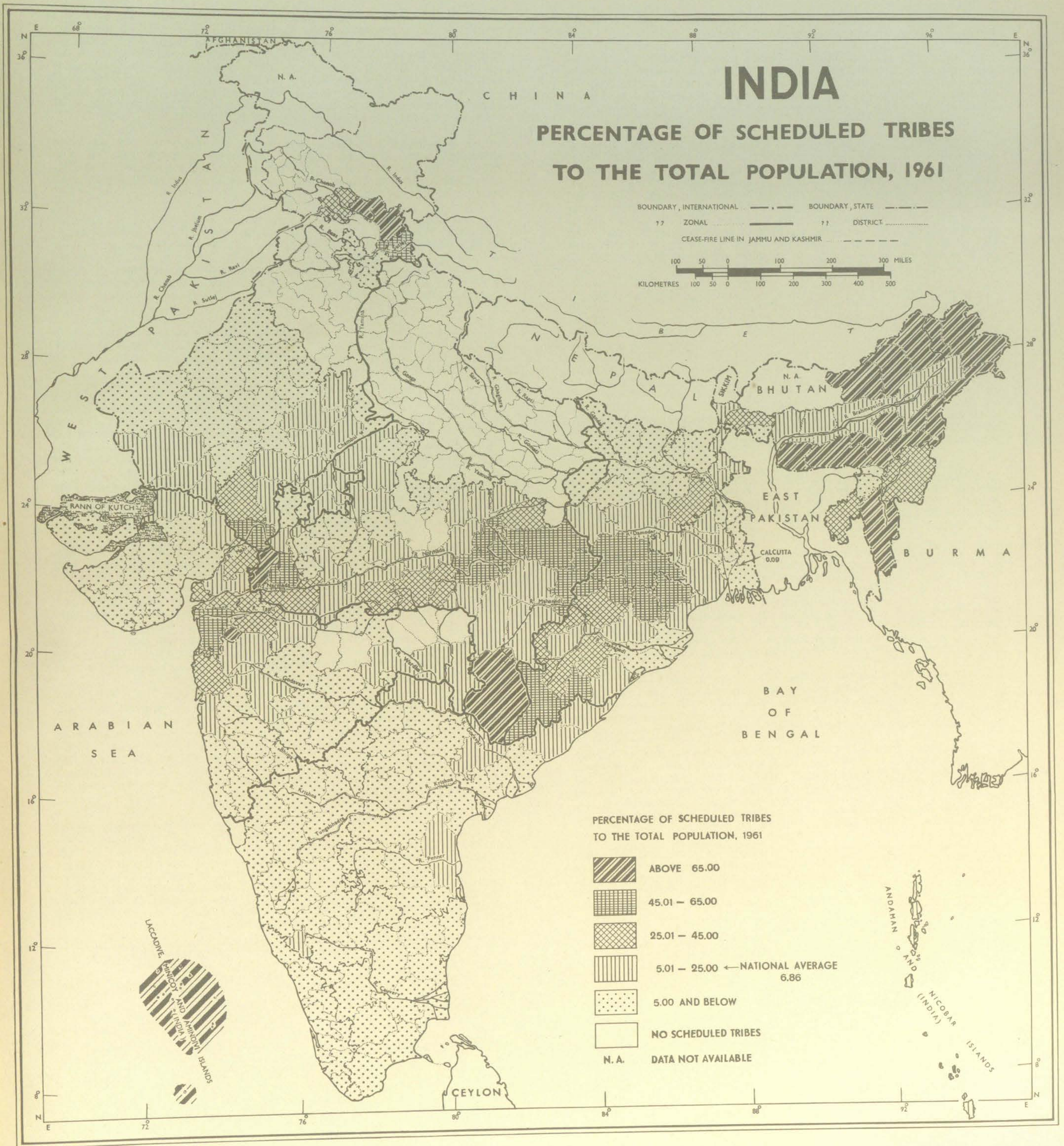
Sl. No.	State/Union Territory	Total population 1961	Scheduled tribes population 1961	Percentage of scheduled tribes population to total population 1961
1	2	3	4	5
INDIA		439,234,771	30,130,184	6.86
STATES				
1	Andhra Pradesh	35,983,447	1,324,368	3.68
2	Assam	11,872,772	2,064,816	17.39
3	Bihar	46,455,610	4,204,770	9.05
4	Gujarat	20,633,350	2,754,446	13.35
5	Jammu and Kashmir	3,560,976	...	...
6	Kerala	16,903,715	212,762	1.26
7	Madhya Pradesh	32,372,408	6,678,410	20.63
8	Madras	33,686,953	251,991	0.75
9	Maharashtra	39,553,718	2,397,159	6.06
10	Mysore	23,586,772	192,096	0.81
11	Orissa	17,548,846	4,223,757	24.07
12	Punjab	20,306,812	14,132	0.07
13	Rajasthan	20,155,602	2,309,447	11.46
14	Uttar Pradesh	73,746,401	...	...
15	West Bengal	34,926,279	2,054,081	5.88
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	63,548	14,122	22.22
2	Delhi	2,658,612	...	...
3	Himachal Pradesh	1,351,144	108,194	8.01
4	Laccadive, Minicoy and Amindivi Islands	24,108	23,391	97.03
5	Manipur	780,037	249,049	31.93
6	Tripura	1,142,005	360,070	31.53
7	Dadra and Nagar Haveli	57,963	51,259	88.43
8	Goa, Daman and Diu	626,667	...	...
9	Pondicherry	369,079	...	...
10	North-East Frontier Agency	336,558	298,167	88.59
11	Nagaland	369,200	343,697	93.09
12	SIKKIM	162,189	...	...

Source : Census of India, 1961, Vol. I, India, Part V-A (ii)—Special Tables For Scheduled Tribes.



INDIA

PERCENTAGE OF SCHEDULED TRIBES TO THE TOTAL POPULATION, 1961



DISTRIBUTION OF STATEWISE FIRST TEN NUMERICALLY MAJOR SCHEDULED CASTES, 1961

Purpose : This map shows the distribution of the statewide first ten numerically major scheduled castes in India in 1961.

Method : In each of the States and the Union Territories, the scheduled castes with a total strength exceeding 2,000 persons are considered as major ones. The first ten of these are shown in descending order in the map by different coloured symbols, each representing 10,000 persons. In case of major scheduled castes with a total strength less than 10,000 persons but more than 5,000 persons, one symbol is used.

Salient Features : According to 1961 Census, about 59 millions of population in India belong to the statewide first ten major scheduled castes. They are found in all the States and the Union Territories of Himachal Pradesh, Delhi, Pondicherry, Tripura and Manipur. Major scheduled castes are predominant in the Northern Plain and the Southern Peninsula. The Central Plateaus and Eastern Hills which support tribal population in large number show a comparatively sparse distribution of major scheduled castes. About one-third of the country's total major scheduled castes population is shared by Chamar caste which is predominant in the Northern Plain. Andhra Pradesh and Madras States in the south are inhabited mainly by Madiga and Adi Dravida castes.

Among all the States and the Union Territories, Uttar Pradesh has the largest population under the first ten major scheduled castes. The total strength of the first ten major scheduled castes in Uttar Pradesh is 14.37 millions accounting for 24.4% of the country's total of statewide first ten major scheduled castes and 19.5% of the State's total population. Among these ten major scheduled castes, Chamars occupy the first rank who are ubiquitous in the entire State except Kumaun region. Their number is, however, very large in Avadh Plain and Upper Ganga-Yamuna *doab*. Pasi, Dhobi and Kori Castes are more numerous in that order in the central part of the State. Balmikis are predominant only in the western districts. The sixth major caste of the State is shilpkar which is found in the hill districts of Kumaun region. The remaining four (Khatik, Dhanuk, Korwa and Kol) are mainly observed in the districts of central and southern parts adjoining Madhya Pradesh State.

In Bihar, 6.07 million persons belong to the first ten major scheduled castes mainly living in Ganga Plain. Chamar, Dusadh and Musahar constitute more than three-fourths of the total and all of them are visible in northern districts. Except Bhuiya which occurs in Gaya and Palamau districts, other scheduled castes of this State, *viz.*, Dhobi, Pasi, Dom, Rajwar, Mehtar and Turi are confined to the Northern Plain.

Madras ranks third in total strength of major scheduled castes which are found all over the State and most notably in coastal areas. The three northern districts of Chingleput, North Arcot and South Arcot exhibit the predominance of Adi Dravida, the most numerous scheduled caste of the State. Paraiyan and Pallan ranking second and third respectively are most numerous in South Arcot, Thanjavur, Tiruchirappalli, Madurai, Ramanathapuram and Tirunelveli districts. The latter two districts also support a good number of Kudumban caste. Chakkiliyan is more conspicuous among the scheduled castes living in Tamilnad uplands in Salem, Coimbatore and Nilgiri districts.

Nearly 5.40 millions of people in West Bengal belong to the first ten major scheduled castes. These are prevalent throughout the State but concentrations are found mainly in Hooghly basin and northern hill districts. Rajbanshi which ranks first among the scheduled castes predominates in the northern districts like Cooch Behar, Jalpaiguri and Darjeeling.

In Andhra Pradesh, 4.8 million people belong to the first ten numerically major scheduled castes. The areas of major concentrations are Krishna-Godavari delta and Telangana Plateau. Madiga and Mala Dasu etc., the first two major scheduled castes are ubiquitous in the entire State. They account for 82.49% of the State's population of first ten major scheduled castes. Adi Andhra and Arundhatiya are next in order of strength and are found in coastal districts notably in East Godavari and West Godavari.

The other State with a large size of population under first ten major scheduled castes is Madhya Pradesh. Chamars share about 63.22% of the total population of first ten major scheduled castes. They predominate in Chambal valley and Mahanadi basin. The distribution of Balai caste which is next to Chamar in numerical strength is confined to the south-western part of the State.

Punjab ranks seventh in numerical strength supporting 4.0 millions of scheduled castes population who are mainly agglomerated in the North Punjab Plain. The distribution is rather sparse in the Southern Plain and it is still very sparse in the hills where only few people who call themselves Kabirpanthi and Kori or Koli castes are found. Chamars, the first predominant caste of this State which shares 40.33% of the total population of first ten major castes of the State are found in every district. Balmikis, who come next in numerical strength are conspicuous in the central and western parts of the State, *viz.*, Karnal, Ferozepur and Jullundur districts.

Rajasthan follows Punjab in numerical strength of the first ten major scheduled castes. These are profusely distributed in the North and in the Aravalli Hills Region. About half of the first ten major scheduled castes population is shared by Chamars who are significant in eastern part of the State.

4.81% of India's statewide first ten major scheduled castes population is settled in Mysore State. They are found mainly in South Maidan Region but their number decreases gradually as one goes towards the coast.

In Orissa State, 2.27 million people belong to first ten major scheduled castes. They are mostly found in the coastal districts. Pan or Pano commands the maximum strength living in coastal districts and their contiguous plateau area.

The next large concentration of major scheduled castes is in Maharashtra State. Mahar, Mang or Matang etc. and Chamar etc., the first three major scheduled castes account for about 91.89% of the population under first ten major scheduled castes.

Gujarat State supports 1.3 million persons under the first ten major scheduled castes—Mahyavanshi, Chamar, Bhangi, Meghwal, Senva, Garoda, Nadia or Hadi, Turi, Bawa and Tirgar. These are distributed throughout the State but more notably in Gujarat Plain. Mahyavanshi, Chamar and Bhangi, the first three major scheduled castes share 80.77% of the State's total of first ten major scheduled castes and these are visible in the districts of Gujarat plain.

In Kerala, 1.25 million persons were enumerated as belonging to the first ten major scheduled castes which are concentrated in southern Malabar coast. Pulayan or Cheramar caste ranking first in numerical strength is predominant in Alleppey and Ernakulam districts.

The first ten major scheduled castes of Assam State are concentrated in two distinct areas—one in Brahmaputra Valley and the other in Cachar Valley. The entire Brahmaputra Valley embracing Goalpara, Kamrup, Darrang, Lakhimpur, Sibsagar and Nowgong districts is inhabited mainly by Namasudra, Brittil-Bania, Sutradhar, Hira, Jaliya and Jhalo-Malo scheduled castes sharing 70.01% of the State's total population of first ten major scheduled castes (0.7 million).

The Union Territories of Himachal Pradesh and Delhi are next in the order of total strength under the first ten major scheduled castes. In Himachal Pradesh, 0.34 million population belongs to first ten major scheduled castes of which about one-third is settled in Chamba district alone.

The major scheduled castes of Jammu and Kashmir State are—Megh, Chamar, Doom, Batwal, Barwala, Saryara, Dhyar and Basith. It is worth mentioning that 4 districts in the north, *viz.*, Anantnag, Srinagar, Baramulla and Ladakh are completely devoid of major scheduled castes. Other than a few persons of Megh and Chamar in Doda and Poonch districts, all the ten major scheduled castes are mainly confined to three southernmost districts—Jammu, Kathua and Udhampur. Due to districtwise low numerical strength Saryara, Dhyar, Basith castes are not shown in the map.

The Union Territories of Tripura, Manipur and Pondicherry in the order of their ranks exhibit insignificant number of major scheduled castes population. In Tripura, there are eight major scheduled castes with a total strength of 0.11 million persons who are scattered in the entire Union Territory. Only two scheduled castes, Paraiyan and Adi Dravida of Pondicherry comprising 50,828 persons come in the major scheduled castes group living in Pondicherry and Karaikal districts. Manipur supports only 11,379 persons belonging to two major scheduled castes—Lois and Namasudra of which the latter one is not shown in the map due to less numerical strength.

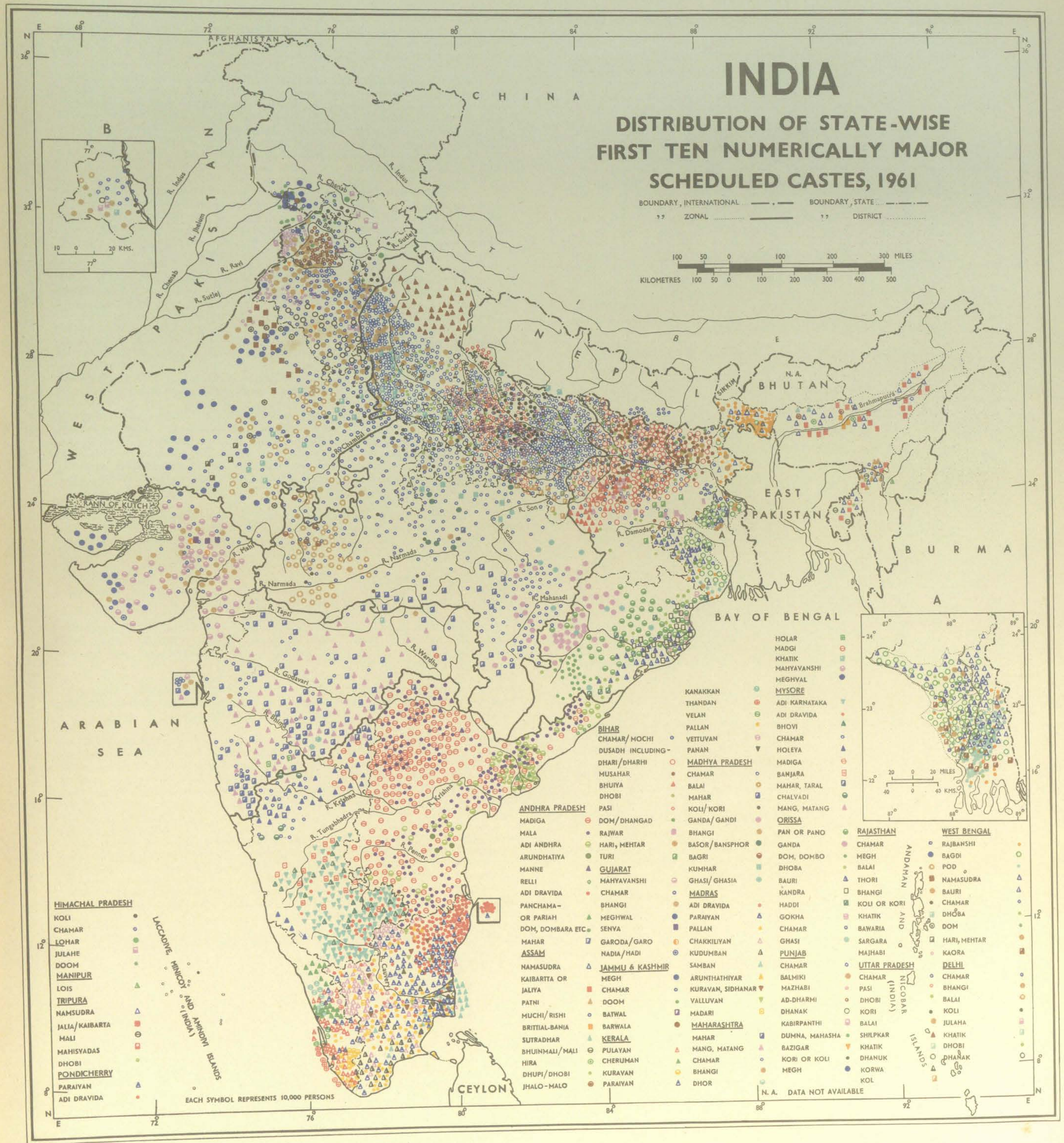
Source : Census of India, 1961, Vol. I, India, Part V-A(i)—Special Tables For Scheduled Castes.

INDIA

DISTRIBUTION OF STATE-WISE FIRST TEN NUMERICALLY MAJOR SCHEDULED CASTES, 1961

BOUNDARY, INTERNATIONAL ——— BOUNDARY, STATE ———
ZONAL ——— DISTRICT ———

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500



DISTRIBUTION OF STATEWISE FIRST TEN NUMERICALLY MINOR SCHEDULED CASTES, 1961

Purpose : This map shows the distribution of Statewise first ten numerically minor scheduled castes in India.

Method : In each of the States and the Union Territories, the scheduled castes with a total strength of less than 2,000 persons are considered as minor scheduled castes for this map. The first ten in ascending order of their numerical values of these statewise minor scheduled castes are shown in the map by different coloured symbols, each representing 100 persons.

Salient Features : According to 1961 Census, the total population of the statewise first ten minor scheduled castes amount to 76 thousand. Some of the areas inhabited by tribal population, such as, Chotanagpur plateau, Mahanadi basin, Bastar plateau, Maharashtra plateau, eastern hills etc. are, however, devoid of minor scheduled castes. An elongated belt stretching over north-western Himalayas and its immediate adjacent Punjab plain is conspicuous of a comparatively dense concentration of minor scheduled castes. Except for Telangana plateau and a few clusters in the coastal areas, the entire southern Peninsula exhibits a sparse distribution of minor scheduled castes.

Among the States and the Union Territories supporting minor scheduled castes, Punjab State has by far the largest share of minor scheduled castes population. They are mainly concentrated in the northern districts. About 36% of the minor scheduled caste's population in Punjab State lives alone in Kangra district. The districts of Ambala and Patiala with Gandhila or Gandhil Gondola, Deha, Dhaya or Dhea and Bangali scheduled castes form the other significant pocket of minor scheduled castes.

West Bengal ranks next in size of population under the first ten minor scheduled castes. Their distribution is characterised by three distinct patches, i) Purulia district, ii) Hooghly basin and iii) the districts of Malda and West Dinajpur in the north. Bantar, Chaupal, Kurariar, Nat, Bhogta and Kanjar, sharing 61.2% of the minor scheduled castes are agglomerated in Purulia district. Beldar is predominant in the remaining two groups, whereas, Bahelia is found mostly in Nadia, Jalpaiguri and Murshidabad districts.

Uttar Pradesh ranks third among the States in numerical strength. The first ten minor scheduled castes are scattered in the entire state but less in Kumaun region. These minor scheduled castes in the eastern part are distributed in three areas; i) Boria and Bajaniya castes in Kanpur and Etawah districts, ii) Patari and Parahiya in Mirzapur district and iii) Khairaha and Khorot in Faizabad and Basti districts respectively. Mazhabi, Gual and Bangali scheduled castes are widely scattered in Rohilkhand and Upper Ganga-Yamuna *doab*. Balai caste is more predominant in Jhansi and Nainital districts.

8.2% of India's total population under the statewise first ten minor scheduled castes lives in Madhya Pradesh. They are settled mostly in the central part of the state. The distribution pattern shows a mosaic of various castes, such as, Rujjhar in Hoshangabad district, Holiya in Balaghat district, Dahait (includes Dahayat or Dahat) in Damoh district, Muskhan in Satna and Rewa districts, Chitar in Raisen and Sehore districts. The Bhanumati castemen live in the western districts of Ujjain, Shajapur and Rajgarh. Bahna or Bahana have the maximum strength among the first ten minor scheduled castes and they are found in Narsimhapur, Sagar, Damoh, Chhindwara, Bilaspur, Seoni and Jabalpur districts.

Andhra Pradesh ranks next in numerical strength. The first ten minor scheduled castes are concentrated mainly in the Telangana plateau and in north coast area. Among the ten minor scheduled castes, five—Holeya Dasari, Ellamallwar (Yellammallawandlu), Kolupulvandlu, Samagara and Mashti are confined exclusively to Telangana plateau region. Madasi Kuruva or Madari Kuruva and Matangi are found in Rayalaseema region. Other than these, Sapru, Mundala and Godari are distributed mainly in the coastal districts of Srikakulam, Visakhapatnam and East Godavari.

The Union Territory of Pondicherry stands sixth among the States and Union Territories with respect to numerical strength of minor scheduled castes. Eight minor scheduled castes of Pondicherry are predominantly distributed in three districts—i) Samban, Kuravan, Chakkiliyan and Valluvan in Pondicherry; ii) Pallan, Vettiyan, Valluvan and Kuravan in Karaikal and iii) Madiga and Adi Andhra in Yanam district.

In Gujarat State, only seven scheduled castes are of minor rank. About 70% of the population of these minor scheduled castes is settled in Kathiawar

peninsula. Dhor and Pasi are found in Ahmedabad district. Bakad is visible in Panchmahals district. Garमतang and Mang, Matang, Mang Garudi ranking fourth and fifth successively in ascending order are clustered in Jamnagar, Bhavnagar, Surat and Dangs districts.

The first ten numerically minor scheduled castes of Rajasthan State are distributed in four patches lying in northern and eastern parts. These can be discerned as—i) Jaipur, Ajmer, Sikar and Ganganagar districts populated mainly by Kooch Band and Madari castes; ii) Ganganagar and Bikaner districts inhabited by Pasi and Sarbhanga castes; iii) Bundi, Kota and Jhalawar districts inhabited by Singiwala, Chandal and Khangar castes and iv) Udaipur district with the population of Gandia, Godhi and Madari castes. Korla is found in Bharatpur and Sikar districts.

There are only four scheduled castes which belong to the minor group in Jammu and Kashmir State. These are distributed in the southern part of the State. Jolaha with the least strength among the four castes live in Doda district; Gardi is found in abundance in Udhampur, Jammu and Poonch; Ratal is found mainly in Kathua and Udhampur districts and Chura is scattered in Udhampur, Jammu, Poonch, Kathua and Doda districts.

The Union Territories of Himachal Pradesh, Tripura and Delhi come next in that order. In Himachal Pradesh, the first ten minor scheduled castes are found in almost all districts. In Kinnaur district, only Sirkiband caste having 37 persons is found. Among these, Khatik which has been shown by a symbol, is confined to Chamba district. In Tripura, 2,612 persons belong to the first ten minor scheduled castes—Koir, Kahar, Keot, Dum, Bagdi, Gur, Ghasi, Koch, Mehtor and Kharia. They are more in number in northern part. The first ten minor scheduled castes living in Delhi Union Territory are—Mazhabi, Dom, Nat (Rana), Bhil, Sirkiband, Gharrami, Sapera, Meghwal, Naribut and Bazigar. Each of these has a small numerical strength.

In Kerala State, the first ten minor scheduled castes are confined to northern half of the State. The two northernmost districts of Cannanore and Kozhikode support 71.6% of the State's total and inhabited by Nalakeyava, Samagara, Adi Andhra, Mundala, Arunthathiyar, Adi Karnataka and Kudumban castes. The distribution of minor scheduled castes gets thinner towards South. The districts of Palghat and Trichur are inhabited by Vallon, Panchama, Kadaiyan and Kudumban castes all of which total to 630 persons.

141 persons of Orissa belong to the first ten numerically minor scheduled castes. They are mainly distributed in the coastal districts and Koraput hills. Mang and Pinda, all of which share about one-third of the total strength are found mainly in Koraput and Ganjam districts. Dosadha is found in Mayurbhanj district. Mewar lives in two extremes : Sundargarh district in the North and Kalahandi in the South whereas Bauti is found in north-eastern districts of Balasore, Cuttack and Mayurbhanj. The remaining castes are settled in coastal districts of Puri, Cuttack and Balasore.

In Madras State, minor scheduled castes are visible mainly in Tamilnad Plain. Five minor scheduled castes (Vettuvan, Bhartar, Panan, Kavara and Uraly) sharing among themselves about half of the total strength are concentrated in Kanyakumari district.

Among the scheduled castes living in Manipur Union Territory, Muchi, Yaithibi and Patni come under minor rank. The total strength of these castes is 1,932 persons who are distributed all over the territory.

The States of Maharashtra, Mysore and Bihar fall successively next in sequence of numerical strength. In Maharashtra State, Greater Bombay is conspicuous by the strength of its population under minor scheduled castes. In Mysore State 42.7% population of the first ten minor scheduled castes is settled in South Kanara district where the other scheduled castes namely Chandala, Bellara, Panchama and Pambada are also prevalent.

The Total number of persons belonging to minor scheduled castes is very low in Assam (581) and it is the lowest in Nagaland (126). In Assam, only Mahara Caste is found as minor and it is mainly found in Sibsagar district. A few persons of this caste are in Cachar and Goalpara districts. In Nagaland, six castes are enumerated as minor, whose numerical strength does not exceed the minimum for mapping and hence not shown by a symbol. Chamar and Mahyavanshi are the two minor scheduled castes in Dadra and Nagar Haveli with a total strength of 973 persons.

Source : Census of India, 1961, Vol. I, India, Part V-A(i)—Special Tables For Scheduled Castes.



DISTRIBUTION OF STATEWISE FIRST TEN NUMERICALLY MAJOR SCHEDULED TRIBES, 1961

Purpose : This map shows the distribution of Statewise first ten numerically major scheduled tribes in India.

Method : In each State/Union Territory, the scheduled tribes whose total strength exceeds 2,000 persons are considered as major scheduled tribes for depiction in the map. The Statewise first ten major scheduled tribes in descending order are shown by different coloured symbols each representing 10,000 persons. Tribes having less than 10,000 persons are also shown by one symbol.

Salient Features : The first ten numerically major scheduled tribes of all the States and Union Territories as enumerated in 1961 Census, account for about 27 million people largely concentrated in the States of Madhya Pradesh, Bihar, Orissa, Gujarat, Maharashtra, Rajasthan etc. There are no scheduled tribes in the northern States of Jammu and Kashmir and Uttar Pradesh. The distribution pattern of the Statewise first ten numerically major scheduled tribes may be described as : i) A heavy concentration of scheduled tribes is visible in the north-eastern part of peninsula embracing the forested hills and plateaus of Bihar, Orissa and Madhya Pradesh States; ii) The second area of heavy concentration is in the West shared by four southern districts in the Aravalli Hills region of Rajasthan, four districts in Gujarat Plain, three districts in Malwa Plateau and four districts of north-western Maharashtra; iii) The scheduled tribes are thinly distributed in the southern States of Andhra Pradesh, Mysore, Kerala and Madras and iv) A very few districts are having scheduled tribes in Himalayan States.

Madhya Pradesh leads in the total population of first ten major scheduled tribes (6.0 million) concentrated mainly in its eastern and south-western parts. Among the ten predominant tribes of the State, Gond are the most numerous and account for 51.4% of the total. The districts with predominance of Gond tribe are Bastar, Mandla, Surguja, Chhindwara, Raipur, Seoni, Durg, Balaghat, Raigarh, Jabalpur, Narsimhapur etc. Bhil, the second numerically strong scheduled tribe in this State is found in the south-western part. The biggest concentration of the Bhils is in Jhabua district. Kol is the third major scheduled tribe in Madhya Pradesh occurring in Vindhyan Scarpland.

The next important State with predominance of tribal population is Bihar. The first ten major scheduled tribes of the State are exclusively confined to southern and eastern parts. About 37.6% of the State's population under ten major scheduled tribes is Santal heavily concentrated in the district of Santal Parganas. Oraon, Munda and Ho ranking successively are concentrated in Ranchi and Singhbhum districts. The remaining major scheduled tribes (Kharwar, Kharia, Bhumij, Lohara, Mahli, Sauria Paharia) live intermixed with the other major scheduled tribes.

The next large concentration of major scheduled tribes is in Orissa State. They are distributed in two distinct clusters; one in the north-east and the other in south-west. Khond tops the list of ten major scheduled tribes in the State. It is concentrated in Koraput, Baudh-Khondmals and Kalahandi districts in south-west. Gond ranking second is mostly prevalent in the western part of the State. In north-eastern part, the most significant tribe is Santal living in Mayurbhanj and Balasore districts.

The eastern part of Gujarat is conspicuous by the heavy concentration of major scheduled tribes. Bhil stand first among ten major scheduled tribes of the State and is found mostly in Panchmahals, Broach, Sabarkantha and Baroda districts alongwith Rathawa and Naikda tribes. The other major scheduled tribes (Dubla, Dhodia, Gamit, Chaudhri, Dhanka, Kokna and Varli) are concentrated in Surat district.

Maharashtra comes fifth in numerical strength of scheduled tribes. Out of ten major scheduled tribes in this State, seven are concentrated in north western part. Bhils who rank first are concentrated in the areas bordering Gujarat and Madhya Pradesh. Koli Dhor ranking next is mainly found in Nasik, Thana, Ahmednagar and Poona districts.

Rajasthan has a sizeable scheduled tribes population. Minas are the most numerous and are found in the Aravalli Hills Region in the East comprising mainly the districts of Jaipur, Sawai Madhopur, Udaipur, Chitorgarh, Kota etc. Bhil which rank next is heavily concentrated in Udaipur, Dungarpur and Banswara districts.

In Assam State except in Cachar district, the major scheduled tribes are distributed all over the State. Boro-Borokachari rank first among the ten major scheduled tribes found in this State. They are concentrated in Brahmaputra Valley alongwith other tribes, such as, Miri, Rabha, Lalung etc. Each of the remaining tribesmen are found in particular districts, such as, Khasi and Jaintia tribe in United Khasi and Jaintia Hills district, Garo tribe in Garo Hills district, Mikir tribe in United Mikir & North Cachar Hills district and Mizo tribe in Mizo Hills district etc.

In West Bengal, about two million people belong to the major scheduled tribes. 61.9% of them are Santals. The districts with predominance of Santals are Midnapore, Purulia, Burdwan, Bankura, West Dinajpur etc. Oraons comprise the second largest group and are concentrated in Jalpaiguri district.

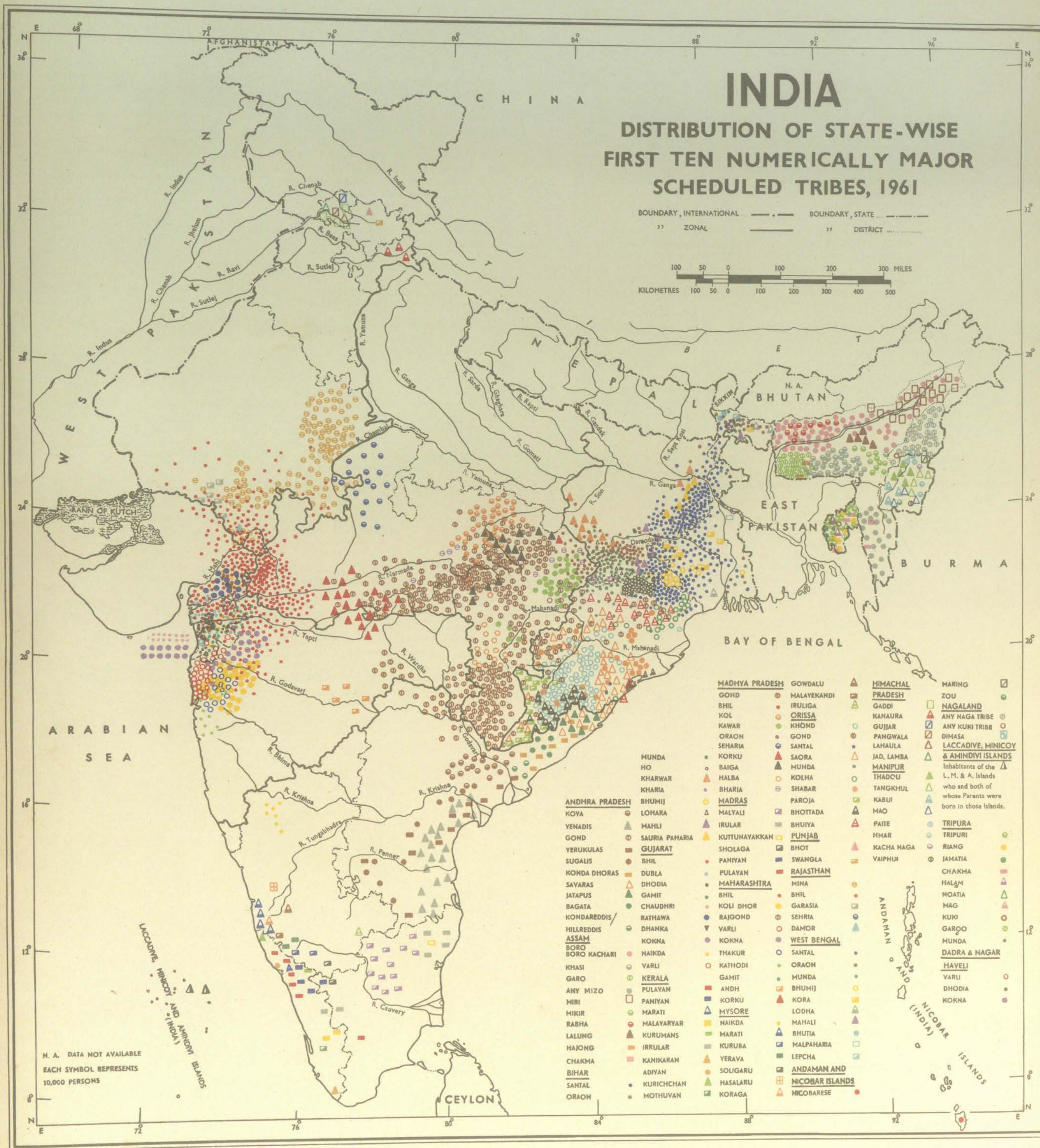
Andhra Pradesh supports only 1.1 million population of major scheduled tribes of which Koyas account for about 20%. They are predominant in Khammam district. Yenadis rank second and are found in the southern coastal areas. Gonds are found in the northernmost part of the State. The remaining major scheduled tribes are distributed in coastal areas and Rayalseema Region.

The southern Peninsula shows a relatively thinner concentration of major scheduled tribes. Madras, Kerala and Mysore States together support only 2.2% of India's total first ten major scheduled tribes. In Madras, Malayali and Irular are the first two major scheduled tribes which are concentrated in northern part of the State. In Kerala State, about 72.3% of the population under the ten major scheduled tribes is settled in Cannanore and Kozhikode districts. In Mysore State, major scheduled tribes live in two areas : one in the North and the other in the South. Naikda tribe ranking first is found in Belgaum, Bijapur and Dharwar districts. All of the remaining nine major scheduled tribes are concentrated in the southern part of the State.

The Union Territories of Nagaland, Tripura and Manipur also have a sizeable population of major scheduled tribes. The entire Nagaland is inhabited by Naga tribe which accounts for 98.4% of the major scheduled tribes. Dimasa (kachari) and Kuki are the other major tribes living in southern part. In Tripura, there are 10 major scheduled tribes distributed all over the Union Territory. About 0.2 million of population in Manipur belong to the first ten major scheduled tribes. They are evenly distributed all over the Union Territory.

Some major scheduled tribes are visible in the hill districts of Himachal Pradesh and Punjab. Of the six major scheduled tribes of Himachal Pradesh, five inhabit in Chamba district with a total population of about 67 thousands. Kanauras are found in Kinnaur district. Bhot and Swangla are the two major scheduled tribes of Punjab State, both of which are seen in Lahaul and Spiti district.

Source : Census of India, 1961, Vol. I, India, Part V-A(ii)—Special Tables For Scheduled Tribes.



DISTRIBUTION OF STATEWISE FIRST TEN NUMERICALLY
MINOR SCHEDULED TRIBES, 1961

Purpose : This map shows the distribution of Statewise first ten numerically minor scheduled tribes in India.

Method : The scheduled tribes of each State and Union Territory with a total strength below 2,000 persons have been considered as minor scheduled tribes. The first ten of these in ascending order are shown in the map by symbols of various colours, each representing 100 persons.

Salient Features : The statewise first ten numerically minor scheduled tribes in India are 82 with a combined strength of about 60 thousand persons, as enumerated in 1961 Census. Most of these minor scheduled tribes live in the hills and plateaus of southern and eastern part of the country. A few of them are also visible in the western littoral districts. The principal abodes of minor tribal groups are Chotanagpur Plateau, Orissa Plateau, Malabar Coast and its immediate adjacent uplands of Tamilnad, eastern hills and western parts of peninsula. The whole of the northern Plain (excluding Garo Hills) do not have any population of minor scheduled tribes.

Among the States and Union Territories populated by minor scheduled tribes, Manipur shows the largest concentration of minor scheduled tribes with population of 8,376 persons. Only nine tribes come under minor group among which Aimol has the lowest strength (108) followed by Koirao (406), Koirang (531), Angami (632), Moyon (647) etc. All of these minor scheduled tribes are distributed throughout the Union Territory.

The area of next population concentration of the minor scheduled tribes is the Madras State (7,418 persons). Except Kurumans, all the 7 tribes that come under minor tribes are found in the districts bordering Kerala State. Kurumans has the lowest strength (112) and confined mainly to Madras district. In North Arcot and Coimbatore districts, Kurumans tribe is found but is not shown by a symbol as the total population of this tribe does not exceed 50 in both the districts. Each of the remaining minor scheduled tribes is, however, predominant in one district or the other, such as, Toda and Kota in Nilgiri district, Palliyan in Madurai district, Kanikaran or Kanikkar in Kanyakumari district and Kadar and Malasar in Coimbatore district.

West Bengal comes next where minor scheduled tribes abound. Out of the ten minor scheduled tribes, seven are concentrated in Purulia district and account for 65.65% of the State's minor scheduled tribes population. Hajang, Magh and Ho tribes are seen in Jalpaiguri district. The latter two are also scattered in Hooghly basin.

Kerala ranks next to West Bengal in the matter of concentrations of minor scheduled tribes. The first ten minor scheduled tribes of the State are distributed in two patches: one in northern part and the other in the southern part. The southern patch embracing Ernakulam, Kottayam, Quilon and Trivandrum districts is populated by Palliyar, Malakkuravan, Malai Vedan and Malai Pandaram tribes which together hold 36% population of the ten minor scheduled tribes.

In Orissa State, about 4,000 persons belong to the first ten minor scheduled tribes. Except Gandia and Koli including Malhar which are widely scattered in Koraput, Ganjam and Cuttack districts, all minor scheduled tribes live in three northernmost districts of Mayurbhanj, Keonjhar and Sundargarh.

Among the scheduled tribes living in Bihar State, only four come under the minor category. Bathudi and Savar ranking first and fourth are concomi-

tant in Singhbhum district. Khond and Baiga ranking second and third respectively are mainly concentrated in Hazaribagh, Ranchi and Palamau districts.

In Madhya Pradesh, there are six minor scheduled tribes which are found throughout the State. The most conspicuous among these is Bastar Plateau populated by Parja and Gadaba scheduled tribes. Mina and Mogia tribesmen are found in the western part comprising the districts of Vidisha, Sehore and Raisen. Other than these two patches, Majhi and Birhul or Birhor scheduled tribes are found in Datia and Raigarh districts respectively.

The first ten minor scheduled tribes of Mysore State are more predominant in the northern districts. More than 80% of minor scheduled tribes of the State are confined to the belt stretching between Bidar and North Kanara districts. Out of the ten, seven minor scheduled tribes are found in this region. They are Bhil, Chenchu, Kathodi, Barda, Pardhi, Gond and Koli Dhor. The latter two of these have the maximum strength out of which Gond is concentrated in Bidar district but Koli Dhor predominate in the contiguous districts of Dharwar, Belgaum and Bijapur. In the southern part, Kaniyan and Meda are found in Mysore and Coorg districts respectively. Malaikudi scheduled tribe is seen mainly in Chikmagalur and Bangalore districts.

There are only three minor scheduled tribes in Andhra Pradesh. These are concentrated in two distinct areas. The entire population of Thoti and Andh scheduled tribes is found in Adilabad district while the coastal districts of Srikakulam and Visakhapatnam are inhabited by Malis tribesmen.

The other States and the Union Territories inhabited by the scheduled tribes of the minor category are Maharashtra, Gujarat, Assam, Dadra and Nagar Haveli, Tripura, Nagaland and Andaman and Nicobar Islands.

In Maharashtra State, seven scheduled tribes belong to the minor category which are distributed mainly in the north-western part comprising the districts of Dhulia, Nasik and Jalgaon. Four minor scheduled tribes, i.e., Chodhara, Patelia, Vitolia and Barda live in this region. The remaining three tribesmen are Pomlas in Sholapur district, Thotis in Nanded district and Khairwars in Chanda district.

There are only three scheduled tribes of minor rank in Gujarat State. Pomla has the least strength found mainly in the coastal districts (Surat, Broach, Kaira and Ahmedabad) of Gujarat plains. The remaining two minor scheduled tribes are Bharwad and Charan, both of which are visible in Jamnagar and Junagadh districts.

In Assam State, Man (Tai speaking) is the only scheduled tribe which comes under the minor category and is found in Garo Hills district only.

In the Union Territory of Dadra and Nagar Haveli, 3,200 persons belong to the category of minor scheduled tribes which account for 5.42% of India's total population of minor scheduled tribes. The tribes inhabited in this territory are Kathodi, Dubla and Koli Dhor including Kolgha. The Union Territory of Tripura has three minor scheduled tribes—Khasia, Uchai and Santal. Among them, Santals alone account for 58.35% of the total tribal population of Tripura. About 2% population of India's Statewise first ten numerically minor scheduled tribes live in Nagaland shared by Any Mizo, Mikir and Garo tribes. These are distributed in the districts of Kohima and Mokokchung.

Source : Census of India, 1961, Vol. 1, India, Part V-A(ii)—Special Tables For Scheduled Tribes.



DISTRIBUTION OF FIRST FIFTEEN NUMERICALLY MAJOR
SCHEDULED CASTES IN INDIA, 1961

Purpose : This map shows the distribution of the first fifteen numerically strong scheduled castes in the country in 1961. These castes arranged in the order of their numerical strength are, Chamar/Mochi, Pasi, Madiga, Adi Dravida, Bhangi/Mehtar, Mala, Dusadh, Dhobi, Paraiyan, Koli/Kori, Adi Karnataka, Rajbanshi, Bagdi, Musahar and Namasudra.

Method : Distribution of the aforesaid fifteen major scheduled castes is shown by various symbols, each symbol representing 50,000 persons. Districts with less than 10,000 persons have not been marked.

Salient Features : The main concentration of scheduled castes is in the Indo-Ganga Plain stretching from the Punjab Plain to Bengal Basin. Seven castes, such as, Chamar/Mochi, Pasi, Dusadh, Dhobi, Bhangi/Mehtar, Koli and Musahar predominate in this plain. Agglomeration of the other five scheduled castes—Madiga, Adi Dravida, Mala, Paraiyan and Adi Karnataka is in the south. The remaining three castes—Rajbanshi, Bagdi and Namasudra are concentrated in West Bengal; the first in the north, the second and third in the south. It is worthnoticing that the hill areas, such as, Jammu and Kashmir State, the Punjab Himalayas, the Kumaun Himalayas, the Eastern Himalayas, the Shillong Plateau and some of the forested hills and plateaus in Madhya Pradesh, Maharashtra and Orissa are devoid of scheduled castes. In fact, areas either with a sparse distribution or completely devoid of scheduled castes are pre-eminently tribal areas.

Chamar/Mochi ranking first among the scheduled castes is concentrated in Rohilkhand Plain, Ganga-Yamuna *doab* and Avadh Plain in Uttar Pradesh. This caste is also distributed sparsely in the States of Madhya Pradesh, Bihar, Punjab and Rajasthan. Pasi which ranks next to Chamar in numerical strength is concentrated heavily in Avadh Plain (88·51%). Only 11·49% of the total Pasi caste is distributed in north Bihar. Chamar and Pasi account for 82·29% of the total scheduled castes of Uttar Pradesh.

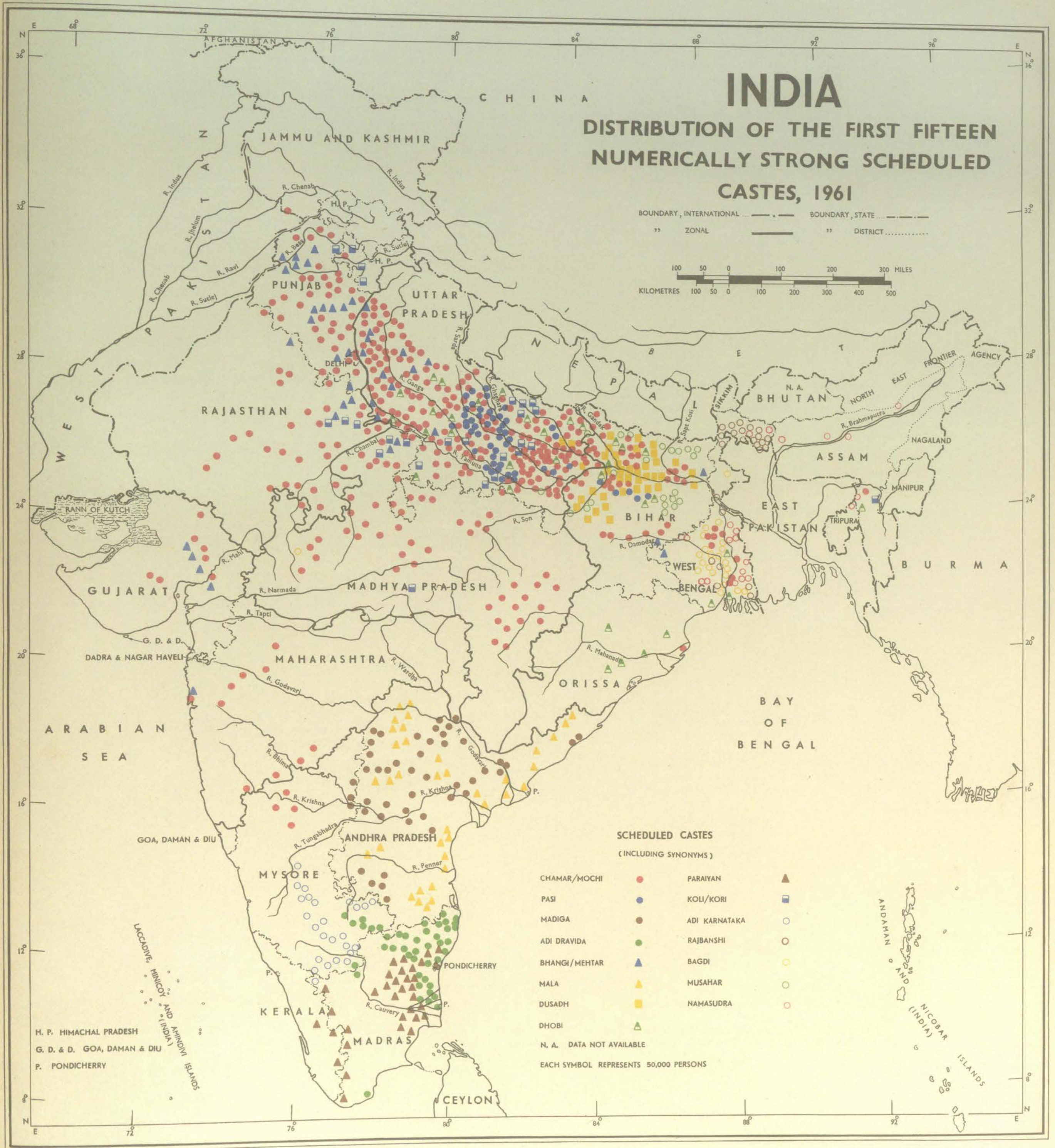
Madiga ranking third among scheduled castes is visible mainly in Andhra Pradesh. About 91·9% of the total Madiga caste is in Andhra Pradesh State. The districts of Bidar, Gulbarga and Raichur in Mysore also support a few of this caste. Adi Dravida ranking next to Madiga is concentrated in the

States of Madras (80·53%) and Mysore (16·45%). Mala (99·56%) is found mostly in the State of Andhra Pradesh. Its distribution is mainly in Godavari Valley and Delta area. Dusadhs are found in northern plain of Bihar (93·39%) and in the eastern districts of Uttar Pradesh (Gorakhpur, Deoria and Ballia). Unlike other scheduled castes, Dhobi caste, ranking eighth, is widely scattered in Uttar Pradesh, Bihar, Orissa, West Bengal and Assam States.

Paraiyan, the ninth ranking scheduled caste occurs in overwhelming number in Madras State. It is mostly concentrated in the eastern districts—South Arcot, Thanjavur, Salem. Some proportion of it is found in the western and southern districts of the State, such as, Nilgiri, Madurai and Kanyakumari. The State of Kerala also has some Paraiyan castemen in Quilon, Ernakulam and Trichur districts. Bhangi/Mehtar, the fifth ranking caste, is most predominant in Punjab State (53·5%), though a small proportion of it occurs in the States of Gujarat, Rajasthan, Madhya Pradesh, Bihar, West Bengal and Maharashtra. Koli/Kori which ranks tenth is visible in Avadh Plain of Uttar Pradesh. A minor proportion of it is visible in Chambal Basin embracing Morena and Bhind districts of Madhya Pradesh, Alwar and Bharatpur districts of Rajasthan. It is also seen in the districts of Sirmur, Mahasu and Mandi of Himachal Pradesh. Adi Karnataka ranking eleventh is concentrated in Southern Karnataka Plateau tapering towards north. Rajbanshi and Bagdi castes, ranking next in that order are predominant in West Bengal; the former in northern part and the latter in Bhagirathi Hooghly Delta in the south. The fourteenth ranking scheduled caste—Musahar is found mainly in the Ganga Plain of Bihar State. Namasudra ranking the lowest among the fifteen major scheduled castes is mainly found in the Hooghly Basin (24-Parganas, Nadia and Hooghly districts of West Bengal). A negligible proportion of Namasudra caste is visible in Brahmaputra Valley, *i.e.*, in Nowgong, Lakhimpur and Kamrup districts.

The distribution pattern of the fifteen major scheduled castes indicates that an overwhelming proportion of these castes lives in the northern plain. The largest concentration of these castes is in Uttar Pradesh followed by Bihar, Punjab, West Bengal, Andhra Pradesh and Mysore. On the whole, three-fourths of the total major scheduled castes live in these seven States.

Source : Census of India, 1961, Vol. I, India, Part V-A(i)—Special Tables For Scheduled Castes.



DISTRIBUTION OF FIRST FIFTEEN NUMERICALLY MAJOR
SCHEDULED TRIBES IN INDIA, 1961

Purpose : This map shows the distribution of the first fifteen numerically strong scheduled tribes in 1961. There are about 98 scheduled tribes in the country which are ranked according to their numerical strength. Each of these tribal groups includes corresponding tribes and sub-tribes as defined in scheduled castes and scheduled tribes lists modification order, 1961.

Method : The first fifteen scheduled tribes arranged in order of their respective numbers are, Gond, Bhil, Santal, Oraon, Mina, Munda, Khond, Kachari group, Ho, Naga Tribe, Kol, Saora/Savara, Koli, Khasi and Kavar.

Distribution of the fifteen scheduled tribes is shown by symbols, each representing 10,000 persons belonging to scheduled tribes.

Salient Features : The first fifteen major scheduled tribes are concentrated mainly in the central-western and north-eastern part of the country. A very thick cluster of scheduled tribes occurs in Santal Parganas, Ranchi and Singhbhum districts of Bihar and Bastar Plateau and Chhattisgarh basin of Madhya Pradesh. From the Bastar hills in the south-west upto Darjeeling district in north-east, there is a continuous strip of tribal concentration with the thickest concentration in south Bihar. The next large concentration is visible at the converging point of the three States—Gujarat, Maharashtra and Madhya Pradesh—lying in between south Aravalli Hills and eastern Rajasthan Plateau in north and lower Narmada Valley in the south. The third concentration exists in the eastern hill areas and Assam valley.

Gond ranks first among scheduled tribes and their concentration occurs in the Dandakaranya area, upper Mahanadi basin, Baghelkhand Plateau and Satpura range. A small proportion of this tribe is also visible in Andhra Pradesh and Orissa. *Bhil* tribe ranking second in numerical strength is found mostly in the hills of the Rajpipla and its adjoining areas shared by Madhya Pradesh, Maharashtra, Gujarat and Rajasthan. The maximum concentration of Bhil tribe is at the meeting point of Rajasthan, Gujarat and Madhya Pradesh States. Jhabua district of Madhya Pradesh, Panchmahals district of Gujarat and Udaipur district of Rajasthan show the largest concentrations of Bhil tribesmen. Santal which ranks next to Bhil tribe in numerical strength is found in south-east Bihar and its adjoining territory in West Bengal. The district of Santal Parganas in Bihar holds the maximum number of Santals.

The fourth ranking major scheduled tribe is *Oraon*, found mainly in

the forested hills and plateaus of southern Bihar and northern Orissa. Ranchi district of Bihar and Sundargarh district of Orissa form one compact area showing a very heavy concentration of *Oraon*. This tribe is also visible in Darjeeling district of West Bengal. *Mina*, the fifth scheduled tribe with a lesser degree of compactness is scattered over Aravalli Range and east Rajasthan uplands. *Munda* tribe standing sixth in order of rank is found intermingled with Oraons in Ranchi district of Bihar and Sundargarh district of Orissa. A few persons belonging to this tribe are also found in West Bengal. *Khond* standing next to Munda is concentrated mainly in the southern hills of Orissa and in Mahanadi basin. The districts of Koraput, Kalahandi and Baudh-Khondmals in Orissa form the principal abode of Khond tribe.

The *Kachari Group* standing eighth in rank is found in Brahmaputra Valley and its neighbouring district of United Mikir & North Cachar Hills. The biggest cluster of Kachari group is formed in the lower part of the valley embracing Goalpara and Kamrup districts of Assam. The *Ho* tribe ranking ninth among the major scheduled tribes is mainly found in Singhbhum district of Bihar State. *Ho* tribe is also found in small numbers in Keonjhar and Mayurbhanj districts of Orissa. The *Naga* tribe which attains tenth position according to numerical strength occurs in the Naga and Manipur hills embracing the Union Territories of Nagaland and Manipur. This tribe is more densely concentrated in Nagaland than in Manipur. *Kol* which is next to Naga tribe in numerical strength dominates in Vindhyan Scarplands mainly in the districts of Satna, Rewa, Sidhi and Jabalpur of Madhya Pradesh. The *Saora/Savara* tribe holding twelfth position among major scheduled tribes is visible in the coastal plain and in eastern Ghat areas in the States of Orissa and Andhra Pradesh. *Koli* next to Saora/Savara in numerical strength is evenly distributed in the districts of Thana, Nasik, Ahmednagar and Poona in Maharashtra. *Khasi* ranking fourteenth among major scheduled tribes live in the district of Khasi and Jaintia Hills of Assam. *Kavar* tribe, the fifteenth major scheduled tribe is concentrated in Baghelkhand Plateau of eastern Madhya Pradesh.

It will be found that the largest concentrations of these fifteen major scheduled tribes are in Madhya Pradesh (28.22%) followed by Bihar (17.81%), Orissa (12.75%), Rajasthan (10.83%), West Bengal (8.72%), Maharashtra (6.45%), Gujarat (6.09%), Assam (5.44%) and Nagaland (1.78%). The most striking feature is that they hardly live intermingled with one another and one dominant tribe precludes the existence of others in the same area. Except in Chotanagpur Plateau where four tribes—Oraon, Ho, Munda and Santal live together, all the other areas are dominated by one specific scheduled tribe.

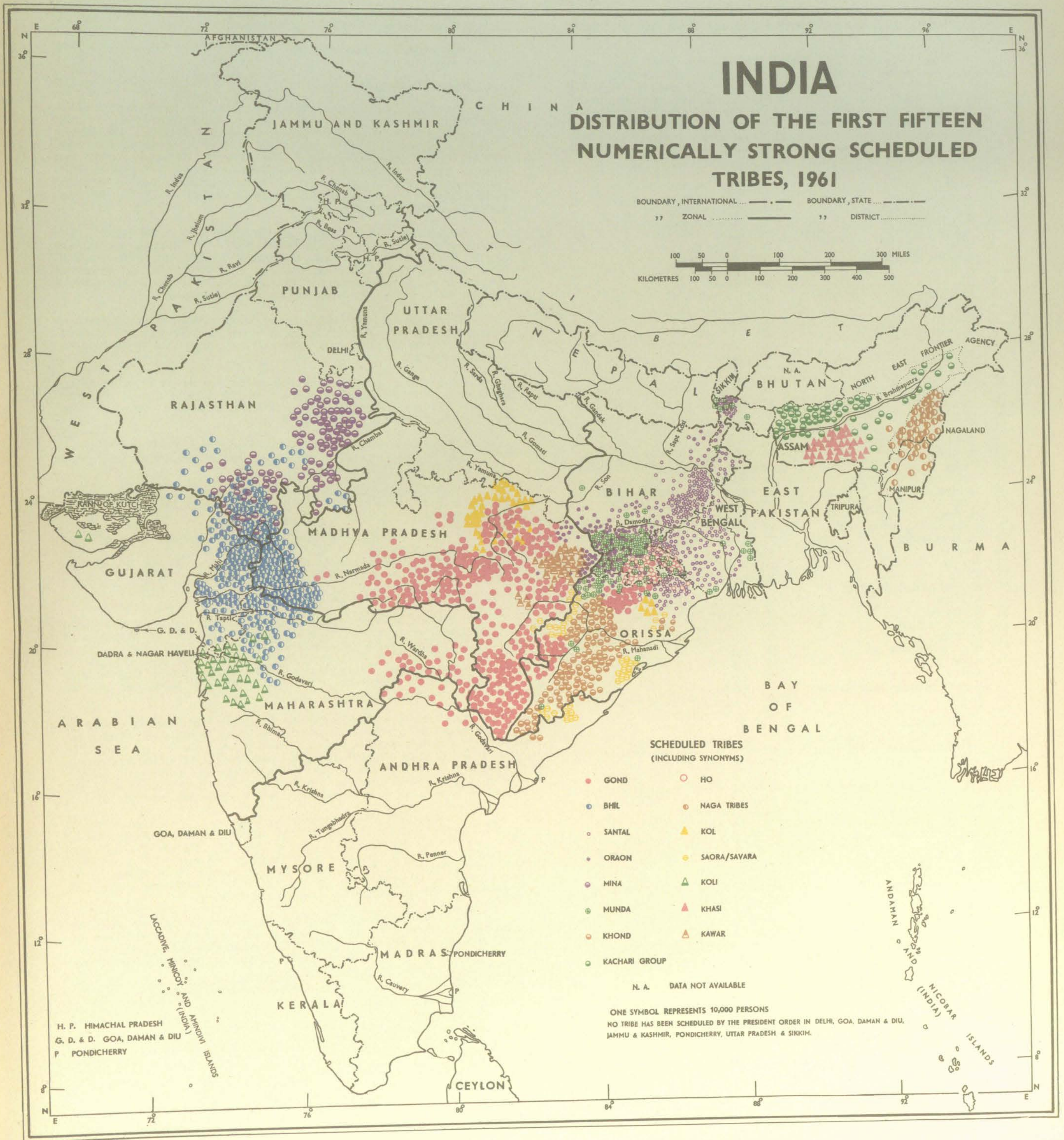
Source : Census of India, 1961, Vol. I, India, Part V-A(ii)—Special Tables For Scheduled Tribes.

INDIA

DISTRIBUTION OF THE FIRST FIFTEEN NUMERICALLY STRONG SCHEDULED TRIBES, 1961

BOUNDARY, INTERNATIONAL BOUNDARY, STATE
 ZONAL DISTRICT

100 50 0 100 200 300 MILES
 KILOMETRES 100 50 0 100 200 300 400 500



SCHEDULED TRIBES
 (INCLUDING SYNONYMS)

N. A. DATA NOT AVAILABLE

ONE SYMBOL REPRESENTS 10,000 PERSONS
 NO TRIBE HAS BEEN SCHEDULED BY THE PRESIDENT ORDER IN DELHI, GOA, DAMAN & DIU, JAMMU & KASHMIR, PONDICHERRY, UTTAR PRADESH & SIKKIM.

DISTRIBUTION OF THREE DISTRICTWISE NUMERICALLY STRONG SCHEDULED TRIBES, 1961

Purpose : This map shows the distribution of three districtwise predominant scheduled tribes each with a numerical strength of not less than 10,000 persons in the year 1961.

Method : In each district, the first three scheduled tribes according to their numerical strength are classified first. Among them, only ten tribes which top the list in numerical strength in the country are differentiated. These are shown by flat colours and hatchings of different intensities, according to the numerical strength as shown in the legend. The others are shown by one uniform colour and the names of the tribes are indicated by the numbers as per list given below. The numerical strength of the tribe is indicated by square for representing more than 100,000 persons; the triangle 50,000—100,000 persons and the circle 10,000—49,999 persons.

- | | |
|-----------------------------------|---------------------------------|
| 1. Andh | 46. Koli Malhar |
| 2. Any Kuki Tribes | 47. Konda Dhoras |
| 3. Any Mizo Tribes | 48. Konda Kapus |
| 4. Any Naga Tribes | 49. Konda reddis |
| 5. Bagata | 50. Kora |
| 6. Baiga | 51. Korku etc. |
| 7. Barmans in Cachar | 52. Kathodi etc. |
| 8. Bedia | 53. Koya |
| 9. Binjhwar | 54. Kunbi |
| 10. Bhattra | 55. Kurumans |
| 11. Bhot or Bodh | 56. Lalung |
| 12. Bhottada | 57. Lepcha |
| 13. Bhumij | 58. Malayali |
| 14. Bhumiya | 59. Mal Pahariya |
| 15. Bhutia etc. | 60. Marati |
| 16. Chakma | 61. Mikir |
| 17. Chero | 62. Miri |
| 18. Damor | 63. Naikda |
| 19. Dhanka etc. | 64. Nicobarese |
| 20. Dhanwar | 65. Paniyan |
| 21. Dhodia | 66. Pardhan |
| 22. Dimasa (Kachari) | 67. Paroja |
| 23. Dubla etc. | 68. Patelia |
| 24. Gaddi | 69. Pulayan or cheramar |
| 25. Gamit etc. | 70. Rabha |
| 26. Garasia | 71. Rathawa |
| 27. Garo | 72. Riag |
| 28. Hajong | 73. Saora etc. |
| 29. Halba | 74. Saur |
| 30. Irular or Irulan | 75. Sauria Paharia |
| 31. Jamatia | 76. Savaras etc. |
| 32. Jatapus | 77. Shabar or Lodha |
| 33. Kabui | 78. Seharia |
| 34. Kachari including Sonwal | 79. Sonr |
| 35. Kinnara | 80. Sugalis (Lambadis) |
| 36. Kavar etc. | 81. Tangkhul |
| 37. Kharia or Kharian | 82. Thakur etc. |
| 38. Kharwar | 83. Tripura or Tripuri, Tippera |
| 39. Khasi and Jaintia etc. | 84. Thadou |
| 40. Kisan | 85. Valmiki |
| 41. Kokna | 86. Varli |
| 42. Kolam (including Mannervallu) | 87. Yenadis |
| 43. Kolha | 88. Yerava |
| 44. Koli | 89. Yerukulas |
| 45. Koli Mahadev | |

Salient Features : There are three distinct areas of tribal concentrations :—

1. The eastern hills and Plateau; 2. North-eastern Peninsular Plateau and 3. Western Peninsular Plateau. In all, 156 districts comprise three regions and each tribe living in these regions accounts for more than 10,000 persons. Among these, 57 districts show the predominance of three tribes, 33 districts two tribes and 66 districts just one tribe. These are distributed in the States of Madhya Pradesh (33), Rajasthan (20), Andhra Pradesh (14), Maharashtra and Orissa (13 each), West Bengal (12), Assam (11), Bihar (10), Madras (5) etc. Ten tribes, viz., Gond, Santal, Bhil, Oraon, Mina, Munda, Khond, Boro-Borokachari, Kol and Ho qualify to occupy the pride of place in one district or the other.

Distribution Pattern :

The north-eastern hills and plateaus are inhabited by a number of scheduled tribes, of which Boro-Borokachari stands first occupying the whole

of Brahmaputra Valley. The districts of Goalpara and Kamrup together have 32.11% of the total Boro-Borokachari population.

Any Naga is the next important scheduled tribe of this region. Their abode is mainly in the Union Territory of Nagaland.

North-Eastern Peninsular Plateau :

Gond is the predominant scheduled tribe in the north-eastern Peninsular Plateau. In numerical strength, it is the leading tribe in the country. This tribe is mainly found in the south-eastern Madhya Pradesh. The district of Bastar alone has 23.4% of the total Gond population of Madhya Pradesh. In Raipur, Betul, Durg, Chhindwara, Seoni, Mandla, Bilaspur, Surguja and Shahdol districts of Madhya Pradesh, a large proportion of population is comprised of Gonds. Apart from these districts, Chanda in Maharashtra and Kalahandi in Orissa also support a substantial number of Gond tribe, each having above 100,000 persons.

Santals rank next to Gonds in numerical strength in this region. This tribe is concentrated in Chotanagpur Plateau and its neighbouring areas, embracing the districts of Santal Parganas, Singhbhum, Dhanbad and Hazaribagh in Bihar; Burdwan, Bankura, Purulia, Midnapur and West Dinajpur districts in West Bengal and Mayurbhanj district in Orissa. 56.9% of the santal population of Bihar is concentrated in the district of Santal Parganas alone.

Khond, the third numerically strong scheduled tribe is concentrated in the districts of Koraput, Kalahandi, Baudh-Khondmals, Ganjam and Bolangir of Orissa. The former three districts support 75.4% of the total Khond population of the country.

Oraons live in the areas contiguous to the districts inhabited by Gonds and Santals. They are mainly concentrated in the Ranchi district of Bihar, Surguja and Raigarh districts of Madhya Pradesh, Jalpaiguri district of West Bengal and Sundargarh district of Orissa.

Mundas are distributed at the converging point of Bihar and Orissa States. The predominant districts of their occurrence are Ranchi and Singhbhum of Bihar and Sundargarh district of Orissa.

Kol is the ninth scheduled tribe living with Gonds in Keonjhar district of Orissa and Satna, Rewa, Shahdol, Sidhi, Jabalpur and Mandla districts of Madhya Pradesh.

Ho tribe is mainly concentrated in Singhbhum district of Bihar. This district alone supports 99.8% of the total Ho population of Bihar. The other important scheduled tribes are Paroja, Kavar, Kharia, Bhumij, Korku and Shabar or Lodha etc.

Scheduled Tribes in the western part of Peninsular Plateau :

In this belt, Bhil is the predominant tribe with its highest density along the border lines of Rajasthan, Gujarat, Madhya Pradesh and Maharashtra States. The districts with predominance of Bhil tribe are Jhabua, Dhar, West Nimar in Madhya Pradesh; Dungarpur, Banswara and Udaipur in Rajasthan; Sabarkantha, Panchmahals, Baroda and Broach in Gujarat and Nasik and Dhulia in Maharashtra. The districts with low proportion of Bhil population surround this nucleus of high density.

Mina, the next numerically strong scheduled tribe is concentrated in the eastern half of Rajasthan mainly in the districts of Jaipur, Sawai Madhopur, Udaipur, Chitorgarh, Kota, Alwar etc. The first three districts support more than 100,000 of Minas while the remaining ones hold 50,000 to 100,000 people belonging to this tribe. Besides this, the non-gregarious tribes like, Gamit, Dubla, Varli, Thakur, Kokna, Dhanka, Dhodia, Koli Malhar etc., are generally concentrated in the coastal districts of Maharashtra and Gujarat.

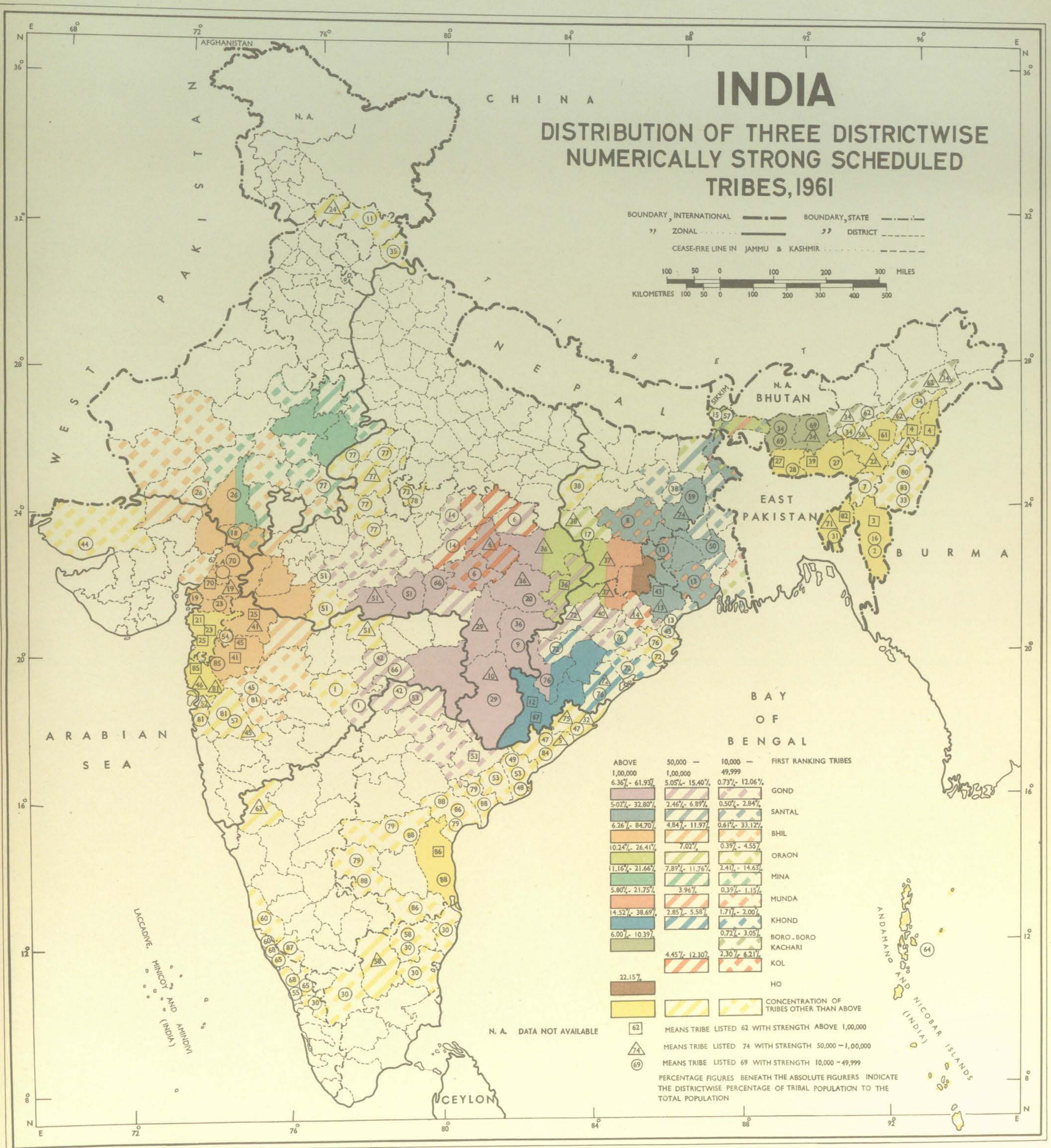
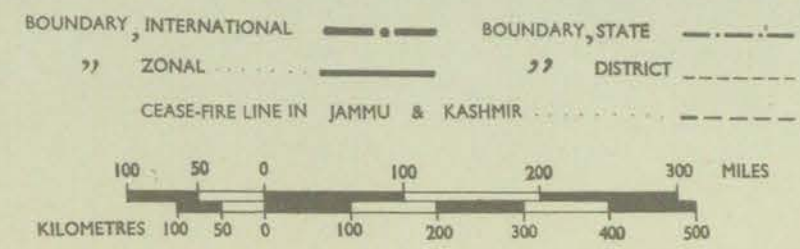
Other than these areas, a heavy concentration of tribal population on a smaller scale is visible in the southern part of the country. The main tribes of this area are Yerukulas, Yenadis, Irular, Malayali, Marati, Paniyan and Pulayan, of which, the former four predominate in the east coast of Madras and Andhra Pradesh and the remaining three in Kerala coast. Some of the tribes in the hill districts of Punjab and Kinnaur and Chamba districts of Himachal Pradesh are Gaddi, Bhot or Bodh and Kinnara.

The distribution of scheduled tribes bear a strong correlation with the areas heavily forested and highly inaccessible. The heaviest concentration of tribal population is, therefore, in the eastern hills and Plateau and north-eastern Peninsular Plateau which are less accessible to railways and clad with dense forests.

Source : Census of India, 1961, Vol. I, India, Part V-A(ii)—Special Tables For Scheduled Tribes.

INDIA

DISTRIBUTION OF THREE DISTRICTWISE NUMERICALLY STRONG SCHEDULED TRIBES, 1961



ABOVE 1,00,000	50,000 — 1,00,000	10,000 — 49,999	FIRST RANKING TRIBES
6.36% - 61.93%	5.05% - 15.40%	0.73% - 12.06%	GOND
5.02% - 32.80%	2.46% - 6.89%	0.50% - 2.84%	SANTAL
6.26% - 84.70%	4.84% - 11.97%	0.61% - 33.12%	BHIL
10.24% - 26.41%	7.02%	0.39% - 4.55%	ORAOON
11.16% - 21.66%	7.89% - 11.76%	2.41% - 14.63%	MINA
5.80% - 21.75%	3.96%	0.39% - 1.15%	MUNDA
14.52% - 38.69%	2.85% - 5.58%	1.71% - 2.00%	KHOND
6.00% - 10.39%		0.72% - 3.05%	BORO-BORO KACHARI
	4.45% - 12.30%	2.30% - 6.21%	KOL
22.15%			HO
			CONCENTRATION OF TRIBES OTHER THAN ABOVE

62 MEANS TRIBE LISTED 62 WITH STRENGTH ABOVE 1,00,000
 74 MEANS TRIBE LISTED 74 WITH STRENGTH 50,000 - 1,00,000
 69 MEANS TRIBE LISTED 69 WITH STRENGTH 10,000 - 49,999
 PERCENTAGE FIGURES BENEATH THE ABSOLUTE FIGURES INDICATE
 THE DISTRICTWISE PERCENTAGE OF TRIBAL POPULATION TO THE
 TOTAL POPULATION

Religion

MAP 150

DISTRIBUTION OF THE MAJOR RELIGIONS, 1961

Purpose : This map shows the percentage share of population belonging to six major religions—Hinduism, Islam, Christianity, Sikhism, Buddhism and Jainism for all the States and Union Territories. 'Other religions and persuasions' and 'religions not stated' are clubbed together and shown separately in the statement under 'others'.

Method : For each State and Union Territory, a square proportionate to total population is drawn and it is divided into hundred grids each representing 1% of the population under any of these religions. For the State of Jammu and Kashmir and all Union Territories, uniform size of squares are drawn. Six different colours are used to differentiate population belonging to six religions as shown in the index of the map. The scale is enlarged in case of small grids showing more than one religion.

Salient Features : Among six major religions, Hinduism is the most predominant religion (83.50%) in the country followed by Islam (10.70%), Christianity (2.44%), Sikhism (1.79%), Buddhism (0.74%) and Jainism (0.46%). The first four religions are well distributed all over the country while the latter two are mostly confined to a few States and Union Territories.

In all the States and Union Territories other than Nagaland, Laccadive, Minicoy and Amindivi Islands and Jammu & Kashmir, Hinduism forms the strongest religious community. Christianity is predominant in Nagaland while Islam in Jammu & Kashmir State.

Islam, the second important religious community, is spread out in all the States and Union Territories of India. The Union Territory of Laccadive,

Minicoy and Amindivi Islands (98.68%) and the State of Jammu & Kashmir (68.30%) exhibit high proportions of their population as Muslims. The other States and Union Territories which support a significant proportion of Muslim population are Assam (23.29%), West Bengal (20.00%) and Tripura (20.14%). In the State of Orissa (1.23%) and the Union Territories of Nagaland (0.24%), Sikkim (0.74%) and Himachal Pradesh (1.90%), the proportion of Muslim population is insignificant.

Christians form the third important religious community in the country showing 2.44% of the India's total population. The State of Kerala (21.22%) and the Union Territories of Nagaland (52.98%); Goa, Daman and Diu (36.25%); Andaman and Nicobar Islands (28.28%) and Manipur (19.49%) show a large share of their population as Christians.

Sikhism is the fourth major religion in India. About 2% of the country's total population are Sikhs. The largest concentration of Sikh community is noticed in Punjab State where this religion originated. About 33% of the total population in Punjab belongs to the Sikh community. The States and Union Territories contiguous to Punjab State, viz., Delhi, Jammu & Kashmir and Rajasthan also show a significant proportion of their population as Sikhs.

The proportions of Buddhists and Jains to India's total population are insignificant (below 1%). Majority of the Buddhist population live in the State of Maharashtra (7.05%) and in the Union Territories of North-East Frontier Agency (15.01%) and Sikkim (30.76%).

Statement showing the Statewise Distribution of Major Religions in India, 1961

Sl. No.	State/Union Territory	Total population	Budhists	Christians	Hindus	Jains	Muslims	Sikhs	Others
1	2	3	4	5	6	7	8	9	10
	INDIA	439,234,771*	3,256,036	10,728,086	366,526,866	2,027,281	46,940,799	7,845,915	1,611,935
			(0.74)	(2.44)	(83.50)	(0.46)	(10.70)	(1.79)	(0.37)
	STATES								
1	Andhra Pradesh	35,983,447	6,753	1,428,729	31,813,944	9,012	2,715,021	8,563	1,425
			(0.02)	(3.97)	(88.41)	(0.03)	(7.55)	(0.02)	(N)
2	Assam	11,872,772	36,513	764,553	7,884,921	9,468	2,765,509	9,686	402,122
			(0.31)	(6.44)	(66.41)	(0.08)	(23.29)	(0.08)	(3.39)
3	Bihar	46,455,610	2,885	502,195	39,345,517	17,598	5,785,631	44,413	757,371
			(0.01)	(1.08)	(84.69)	(0.04)	(12.45)	(0.10)	(1.63)
4	Gujarat	20,633,350	3,185	91,028	18,356,065	409,754	1,745,103	9,646	18,569
			(0.01)	(0.44)	(88.96)	(1.99)	(8.46)	(0.05)	(0.09)
5	Jammu and Kashmir	3,560,976	48,360	2,848	1,013,193	1,427	2,432,067	63,069	12
			(1.36)	(0.08)	(28.45)	(0.04)	(68.30)	(1.77)	(N)
6	Kerala	16,903,715	228	3,587,365	10,282,568	2,967	3,027,639	822	2,126
			(N)	(21.22)	(60.83)	(0.02)	(17.91)	(0.01)	(0.01)
7	Madhya Pradesh	32,372,408	113,365	188,314	30,425,798	247,927	1,317,617	65,715	13,672
			(0.35)	(0.58)	(93.99)	(0.77)	(4.07)	(0.20)	(0.04)
8	Madras	33,686,953	777	1,762,954	30,297,115	28,350	1,560,414	2,567	34,776
			(N)	(5.23)	(89.94)	(0.09)	(4.63)	(0.01)	(0.10)
9	Maharashtra	39,553,718	2,789,501	560,594	32,530,901	485,675	3,034,332	57,617	95,101
			(7.05)	(1.42)	(82.24)	(1.23)	(7.67)	(0.15)	(0.24)
10	Mysore	23,586,772	9,770	487,587	20,582,853	174,366	2,328,376	3,287	533
			(0.04)	(2.07)	(87.27)	(0.74)	(9.87)	(0.01)	(N)
11	Orissa	17,548,846	454	201,017	17,123,194	2,295	215,319	5,030	1,537
			(N)	(1.15)	(97.67)	(0.01)	(1.23)	(0.03)	(0.01)
12	Punjab	20,306,812	14,857	149,834	12,930,045	48,754	393,314	6,769,129	879
			(0.07)	(0.74)	(63.67)	(0.24)	(1.94)	(33.33)	(0.01)
13	Rajasthan	20,155,602	759	22,864	18,132,690	409,417	1,314,613	274,198	1,061
			(0.01)	(0.11)	(89.96)	(2.03)	(6.52)	(1.36)	(0.01)
14	Uttar Pradesh	73,746,401	12,893	101,641	62,437,316	122,108	10,788,089	283,737	617
			(0.02)	(0.14)	(84.66)	(0.17)	(14.63)	(0.38)	(N)
15	West Bengal	34,926,279	112,253	204,530	27,523,358	26,940	6,985,287	34,184	39,727
			(0.32)	(0.59)	(78.80)	(0.08)	(20.00)	(0.10)	(0.11)
	UNION TERRITORIES AND OTHER AREAS								
1	Andaman and Nicobar Islands	63,548	1,707	17,973	32,781	3	7,398	241	3,445
			(2.69)	(28.28)	(51.58)	(0.01)	(11.64)	(0.38)	(5.42)
2	Delhi	2,658,612	5,466	29,269	2,234,597	29,595	155,453	203,916	316
			(0.21)	(1.10)	(84.05)	(1.11)	(5.85)	(7.67)	(0.01)
3	Himachal Pradesh	1,351,144	6,308	592	1,310,019	95	25,619	8,437	74
			(0.47)	(0.04)	(96.96)	(0.01)	(1.90)	(0.62)	(N)
4	Laccadive, Minicoy and Amindivi Islands	24,108	...	56	263	...	23,789	...	...
			(...)	(0.23)	(1.09)	(...)	(98.68)	(...)	(...)
5	Manipur	780,037	325	152,043	481,112	778	48,588	523	96,668
			(0.04)	(19.49)	(61.68)	(0.10)	(6.23)	(0.07)	(12.39)
6	Tripura	1,142,005	33,716	10,039	867,998	195	230,002	49	6
			(2.95)	(0.88)	(76.01)	(0.02)	(20.14)	(N)	(N)
7	Dadra and Nagar Haveli	57,963	2	799	56,576	120	443	...	23
			(N)	(1.38)	(97.61)	(0.21)	(0.76)	(...)	(0.04)
8	Goa, Daman and Diu	626,667	189	227,202	384,378	68	14,600	...	230
			(0.03)	(36.25)	(61.34)	(0.01)	(2.33)	(...)	(0.04)
9	Pondicherry	369,079	25	33,946	311,223	76	23,470	14	325
			(0.01)	(9.20)	(84.32)	(0.02)	(6.36)	(N)	(0.09)
10	North-East Frontier Agency	336,558	5,809	1,713	25,599	14	1,008	745	3,817
			(15.01)	(4.43)	(66.14)	(0.04)	(2.60)	(1.92)	(9.86)
11	Nagaland	369,200	42	195,588	34,677	263	891	255	137,484
			(0.01)	(52.98)	(9.39)	(0.07)	(0.24)	(0.07)	(37.24)
12	SIKKIM	162,189	49,894	2,813	108,165	19	1,207	72	19
			(30.76)	(1.74)	(66.69)	(0.01)	(0.74)	(0.05)	(0.01)

* Includes 38,705 persons of North-East Frontier Agency in Cols. 4, 6, 8 and 10 where All-India Census Schedule was canvassed.

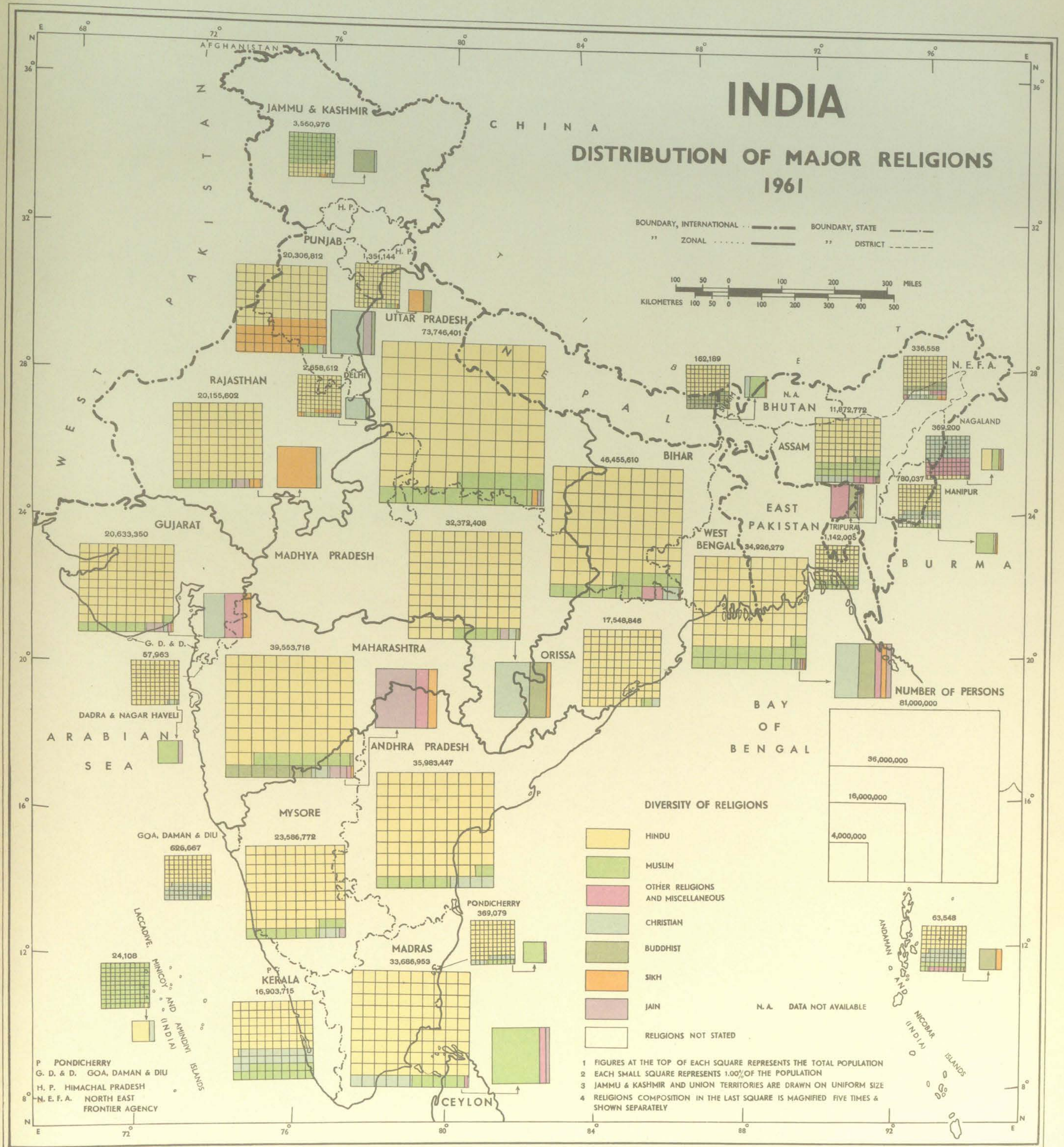
'N' Denotes negligible.

Note : Figures within brackets indicate the percentage of the religion to the total Population.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.

INDIA

DISTRIBUTION OF MAJOR RELIGIONS 1961



Languages

DISTRICTWISE DISTRIBUTION OF MAJOR LANGUAGES, 1961

Purpose : This map depicts the districtwise distribution of major languages spoken as mother tongues in India in 1961. The 'major languages' are identified on the basis of the numerical strength of the languages spoken in a district.

Languages spoken as subsidiary to mother tongue have not been taken into account in this map.

Method : The major languages of the country are grouped into four families, viz., Austric Family, Tibeto-Chinese Family, Dravidian Family and Indo-European Family. Austric Family is further sub-divided into Mon-Khmer and Munda; Tibeto-Chinese Family into Tibeto-Himalayan, North Assam and Assam-Burmese; Indo-European Family into Dardic or Pisacha and Indo-Aryan. Data for districtwise percentages of languages spoken as mother tongue have been calculated. Data are grouped into 4 categories—90·0% and above, 60·0—89·9%, 30·0—59·9% and below 30·0% and are shown by different shades of hatching. As the size of the district is too small to depict all the languages spoken as mother tongue, only major language of the district has been mapped. In a district where a language is spoken by 60·0% or more of its population then only that particular language is depicted. If, however, none of the languages spoken as mother tongue reaches the 60% mark then all the languages spoken as mother tongue falling in the range 5·0—59·0% have been taken into consideration. Besides, Bhadravahi in Doda and Onge in little Andamans are shown by symbols and the names of the languages of N.E.F.A., and Naga languages groups are written on the map. For N.E.F.A., figures relate to the areas for which All-India Census Schedule was canvassed, i.e., for 38, 705 persons or 11·5% of the total population of N.E.F.A.

Salient Features :

1. *Austric Family* :—The Austric Family of languages includes 8 major languages, all of which are spoken by communities inhabiting mainly the parts of Central and North-East India. Among these, Khasi and Nicobarese belong to the Mon-Khmer Branch of the Austric Family. Khasi accounts for 60·00% to 89·99% of the total population in the district of United Khasi and Jaintia Hills. Nicobarese is spoken in Nicobar Islands. The major languages of the Munda Branch are—Santali, spoken mainly in Santal Parganas and Singhbhum districts in Bihar and Mayurbhanj in Orissa, Mundari in Ranchi (Bihar), Bhumij in Mayurbhanj (Orissa), Ho in Singhbhum (Bihar), Kurku in East Nimar and Betul (Madhya Pradesh) and Savara in Baudh-Khondmals (Orissa).

2. *Tibeto-Chinese Family* :—The languages of the Tibeto-Chinese Family are spoken along the north-eastern and north-western frontiers of the country. The languages of the Himalayan region belong to the Tibeto-Himalayan Branch. These are—Ladakhi and Balti in Ladakh, Tibetan-Bhotia in the Union Territory of N.E.F.A., Sikkim-Bhotia in SIKKIM, Lahuli in Lahaul and Spiti, Kanauri in Kinnaur and the languages of N.E.F.A. group (namely Aka, Dafla, Abor/Adi, Mishmi) belong to this Branch. Khamti, a language of Tai group, is also shown in the Himalayan region. The languages of the Assam-Burmese Branch are spoken in the eastern part of the country. Major Naga languages, namely Lotha, Konyak, Sema, Pochury, Angami, Ao, Tangsa, Wancho and Nocte are spoken in Nagaland and Tirap sub-division of N.E.F.A.; Lushai/Mizo in Mizo Hills; Garo in Garo Hills; Mikir and Bodo/Boro in United Mikir and North Cachar Hills district; Manipuri/Meithei in Manipur are also some of the major languages belonging to this Branch.

3. *Dravidian Family* :—Most of the languages spoken in southern part of the country are classified under Dravidian Family of languages. The four major languages of this family are—Telugu, spoken mainly in Andhra Pradesh,

Tamil in Madras, Malayalam in Kerala and Kannada in Mysore State. The former three are spoken by more than 89·99% in the coastal districts of the respective States. In most of the districts of Mysore, Kannada speakers account for 60·00% to 89·99% of the population.

4. *Indo-European Family* :—Hindi, a language of the Indo-Aryan Branch, is spoken in large parts of the country covering the States of Uttar Pradesh, Madhya Pradesh and parts of Bihar, Punjab, Rajasthan and the Union Territories of Delhi and Himachal Pradesh. 28 districts in Uttar Pradesh, 21 districts in Madhya Pradesh and 2 districts each in Punjab and Rajasthan have a high proportion (over 89·99%) of Hindi speakers.

Bengali, numerically second only to Hindi among Indo-Aryan languages, is spoken predominantly in the State of West Bengal, Union Territory of Tripura and also in the Cachar district of Assam. The district of Cooch Behar and 6 districts in the southern part of West Bengal returned more than 89·99% of their population speaking Bengali as mother tongue.

Marathi is spoken in the State of Maharashtra, Union Territory of Dadra and Nagar Haveli and also in some contiguous districts of Madhya Pradesh. In the coastal districts of Kolaba, Ratnagiri and Satara, over 89·99% of the population returned Marathi as their mother tongue. In the remaining districts (excepting Dhulia) Marathi has been returned by 60·00% to 89·99% of the total population.

Twelve out of seventeen districts in the State of Gujarat covering the entire Kathiawar Peninsula and northern Gujarat Plain show a very high (over 89·99%) proportion of Gujarati speaking population. The proportions of speakers of Gujarati in Ahmedabad, Baroda and Surat districts vary between 60·00% and 89·99%.

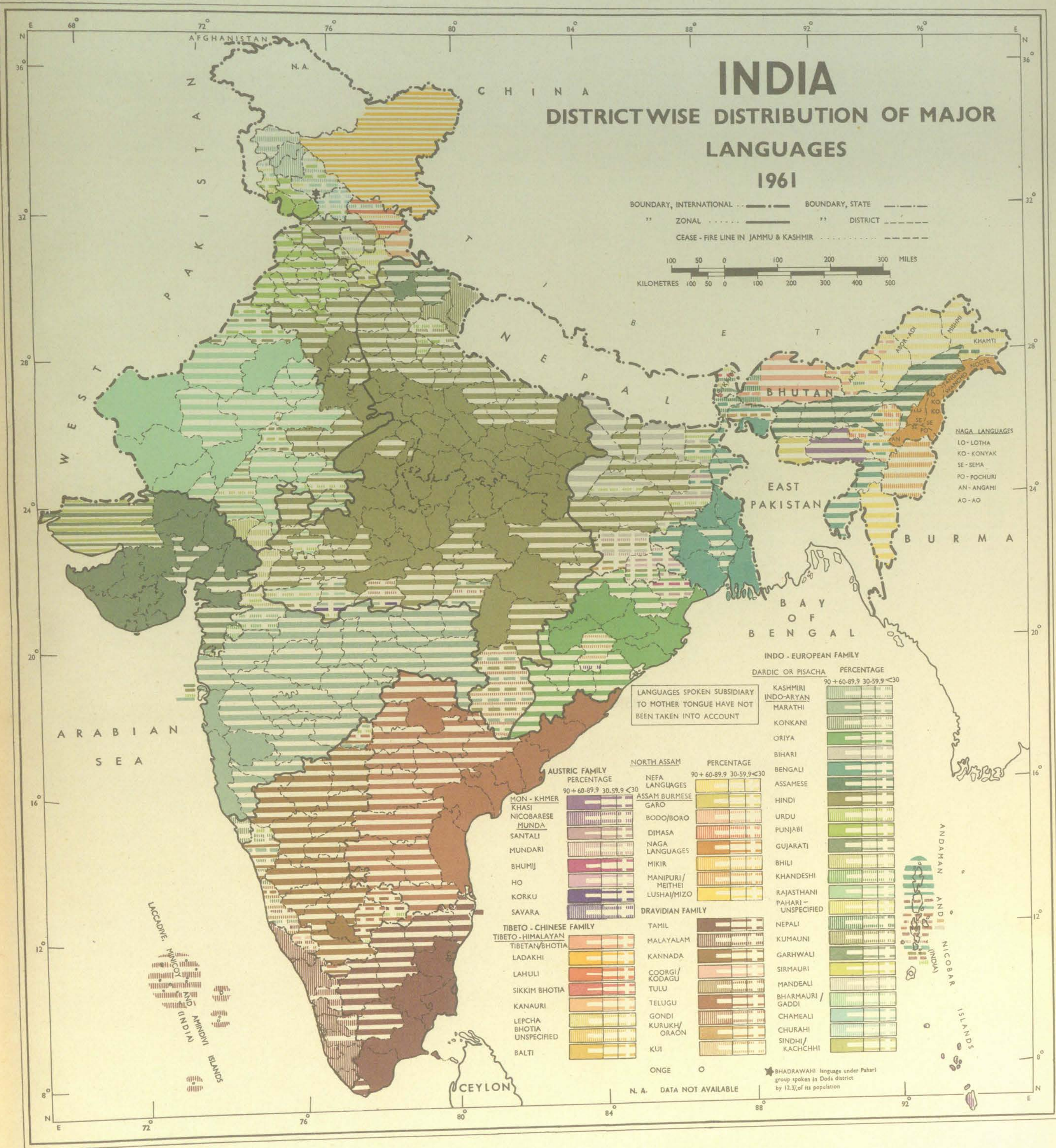
Oriya is spoken mainly in the State of Orissa. In the central districts of the State, namely Bolangir, Sambalpur, Dhenkanal, puri, Cuttack and Balasore, over 89·99% of the population have returned Oriya as their mother tongue. In the remaining districts (excepting Mayurbhanj and Baudh-Khondmals where the proportion of Oriya speakers is much lower) it is spoken by 60·00% to 89·99% of the population.

Punjabi is spoken in the State of Punjab. In the western districts of Punjab, 60·00% to 89·99% of the population have returned Punjabi as their mother tongue. A large proportion of speakers of Punjabi is also found in Jammu and Kathua districts of Jammu and Kashmir State. In Hoshiarpur, Gurdaspur, Simla and Sangrur districts, the proportion of the Punjabi speakers is not as high.

Apart from the aforesaid languages, Indo-European Family includes four other languages which are specified in the VIII Schedule of the Constitution of India. These are—Assamese, Kashmiri (a language of the Dardic Branch), Urdu and Sanskrit.

There are fifteen more major languages of the Indo-Aryan Branch which are shown in the map. Of these, Rajasthani is spoken in the State of Rajasthan. Over 89·99% of the population in the districts of Jaisalmer, Barmer, Jalore, Pali and Churu have returned Rajasthani as their mother tongue. Among the other major languages, Bihari is spoken in Bihar, Garhwali and Kumauni in the Kumaun region of Uttar Pradesh, Nepali in the Darjeeling district of West Bengal, Konkani in Goa and North Kanara district of Mysore, Bhili in Banswara and Dungarpur districts of Rajasthan, West Nimar and Jhabua districts of Madhya Pradesh and Dhulia district of Maharashtra.

Source : Census of India, 1961, Vol. I, India, Part II-C(ii)—Language Tables.



DISTRIBUTION OF POPULATION SPEAKING LANGUAGES
OTHER THAN PREDOMINANT LANGUAGE OF THE STATE/
UNION TERRITORY AS THEIR MOTHER TONGUE, 1961

Purpose : This map shows the districtwise percentage of population speaking languages other than the predominant language of the State/Union Territory as their mother tongue.

Method : Districtwise percentage figures of population speaking languages other than the predominant language of the State/Union Territory are calculated and the data are shown in the map by choropleth method by grouping into six ranges as shown in the legend to the map. For N.E.F.A., figures relate to the areas for which All-India Census Schedule was canvassed, i.e., for 38,705 persons.

Salient Features : According to 1961 Census, Hindi is spoken by the largest number of persons (30.37%) in the country as a whole followed by Telugu (8.58%); Bengali (7.72%); Marathi (7.58%); Tamil (6.96%); Gujarati (4.62%); Kannada (3.97%); Malayalam (3.87%); Oriya (3.58%) and Rajasthani (3.40%).

Hindi is the predominant language of Uttar Pradesh spoken by 85.39% of the population followed by Madhya Pradesh (78.07%); Punjab (55.64%) and Bihar (44.30%). In the Union Territory of Delhi, 77.38% of the population returned Hindi as their mother tongue. Telugu is the predominant language of Andhra Pradesh (85.97% of the population) while Bengali which is the predominant language of West Bengal, Union Territories of Tripura and Andaman and Nicobar Islands is spoken by 84.28%, 65.22% and 21.80% of the population respectively. In Maharashtra, 76.55% of the population speaks Marathi as their mother tongue. Marathi is also the predominant language of Dadra and Nagar Haveli where 58.86% of the total population speaks Marathi as their mother tongue. In Madras and the Union Territory of Pondicherry, Tamil is the predominant language spoken by 83.17% and 88.29% of the population respectively. Gujarati and Kannada are the predominant languages of Gujarat and Mysore spoken by 90.50% and 65.17% of the population respectively. In Kerala and the Union Territory of Laccadive, Minicoy and Amindivi Islands, Malayalam is spoken by 95.04% and 83.08% of the population respectively, while in Rajasthan, 56.49% of the population speaks Rajasthani as their mother tongue. Oriya is the predominant language of Orissa and is spoken by 82.31% of the population.

The map reveals that in 56 districts of the country, the proportions of population speaking languages other than the predominant language of the State/Union Territory are as high as above 64.00%. The distribution of these districts is as : Bihar (8); Punjab and Rajasthan (6 each); Assam, Jammu and Kashmir, Madhya Pradesh and Uttar Pradesh (5 each); Mysore and the Union Territory of Himachal Pradesh (3 each); Union Territories of Goa, Daman and Diu, Pondicherry and Nagaland (2 each) and Gujarat, West Bengal and the Union Territories of Andaman and Nicobar Islands and North-East

Frontier Agency (1 each).

There are 61 districts where the percentages of population speaking languages other than the predominant language of the State/Union Territory range between 32.01—64.00%. Their distribution is as : Madhya Pradesh (9); Rajasthan (7); Mysore and Punjab (6 each); Uttar Pradesh (5); Bihar and Orissa (4 each); Assam and West Bengal (3 each); Madras, Maharashtra and Andhra Pradesh (2 each) and Sikkim, Manipur, Jammu and Kashmir, Gujarat, Dadra and Nagar Haveli, Tripura, Himachal Pradesh and Nagaland (1 each).

These districts are contiguous to the districts falling under the previous range (above 64.00%). These are mostly bordering and plantation districts which have a high share of migrant population from other States having different languages as their mother tongue.

Under the next range (16.01—32.00%), there are 69 districts. Maharashtra has the largest number (15) followed by Uttar Pradesh (8); Mysore (7); Andhra Pradesh (6); Madras (5); Bihar, Rajasthan and West Bengal (4 each); Punjab (3); Orissa, Assam, Himachal Pradesh, Gujarat and Madhya Pradesh (2 each) and Laccadive, Minicoy and Amindivi Islands, Jammu and Kashmir and Delhi (1 each).

In all, 69 districts fall under the range (8.01—16.00%). These districts mainly cover Uttar Pradesh (17); Madhya Pradesh (8); Andhra Pradesh and Rajasthan (7 each); Maharashtra and West Bengal (6 each); Kerala, Madras, Mysore and Orissa (3 each); Gujarat and Punjab (2 each) and Assam and Bihar (1 each). Jabalpur district of Madhya Pradesh has wrongly been shown in the map as falling under the next category.

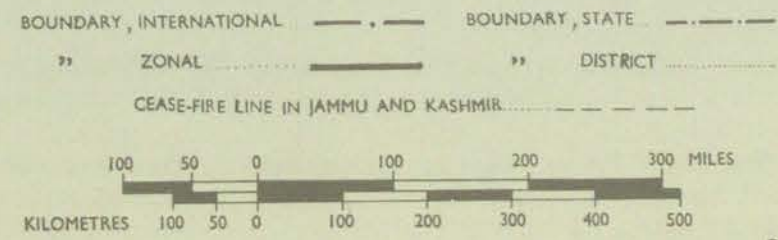
In 39 districts, the proportions of population speaking languages other than the predominant language of the State/Union Territory range between 4.01% and 8.00%. Uttar Pradesh records by far the largest number of districts (16) followed by Gujarat (4), Madhya Pradesh, Andhra Pradesh and Maharashtra (3 each); Kerala, Jammu and Kashmir and Madras (2 each) and Orissa, Rajasthan and the Union Territories of Goa, Daman and Diu and Pondicherry (1 each).

There are 42 districts where the proportions of population speaking languages other than the predominant language of the State/Union Territory as their mother tongue are very low (4.00% and below). More than half of these districts are shared by Madhya Pradesh (16) and Gujarat (7) and the remaining districts are in Kerala (4); Uttar Pradesh and Orissa (3 each); Andhra Pradesh, Punjab and West Bengal (2 each) and Madras, Rajasthan and the Union Territory of Pondicherry (1 each).

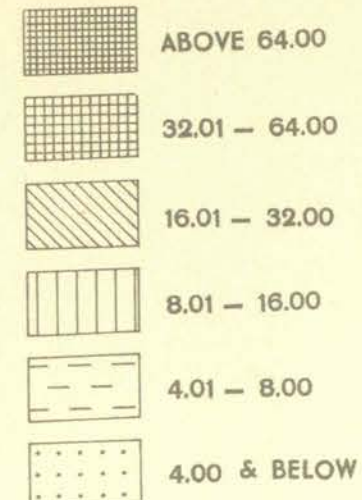
Source : Census of India, 1961, Vol. I, India, Part II-C(ii)—Language Tables.

INDIA

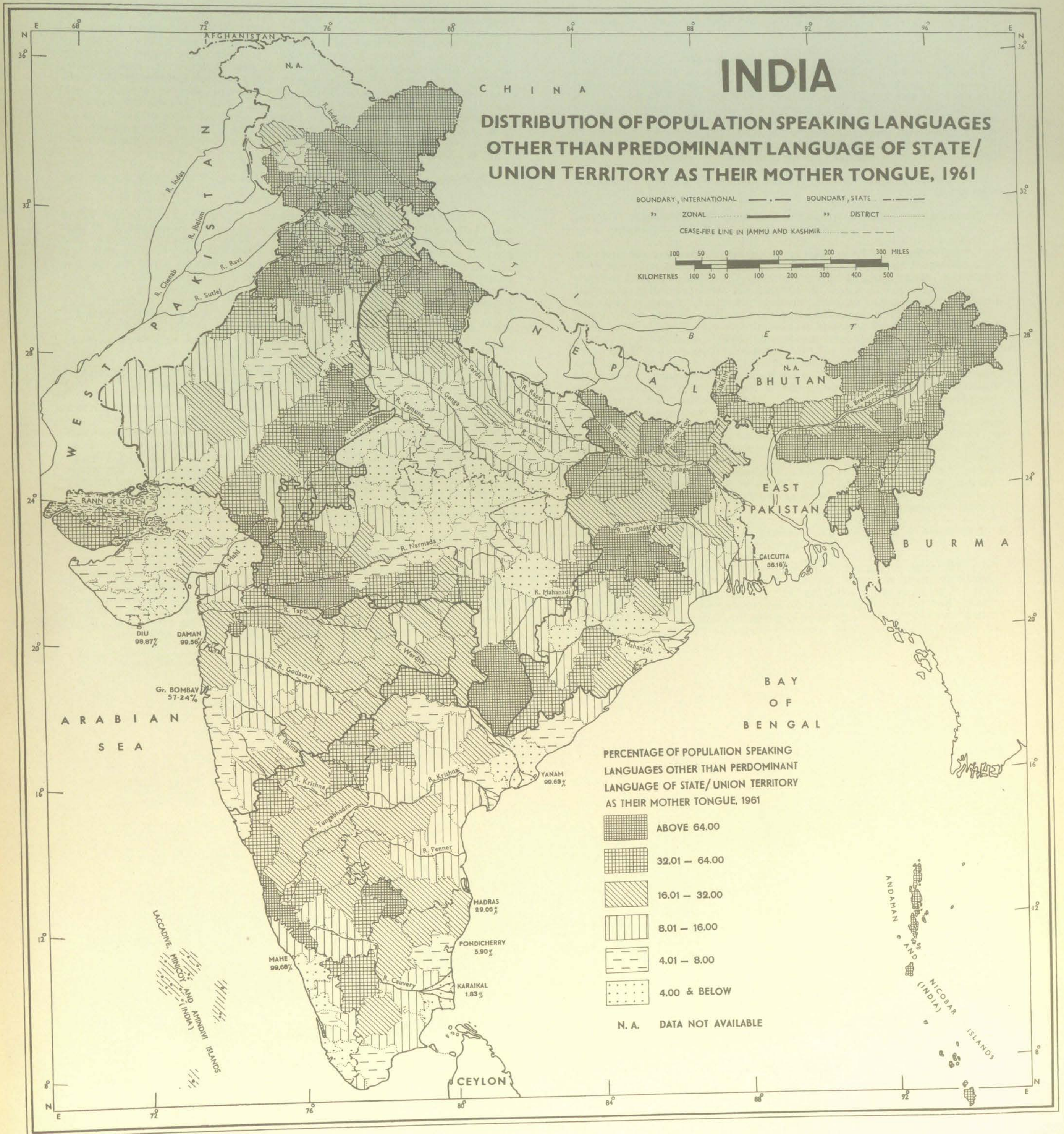
DISTRIBUTION OF POPULATION SPEAKING LANGUAGES OTHER THAN PREDOMINANT LANGUAGE OF STATE/ UNION TERRITORY AS THEIR MOTHER TONGUE, 1961



PERCENTAGE OF POPULATION SPEAKING LANGUAGES OTHER THAN PERDOMINANT LANGUAGE OF STATE/ UNION TERRITORY AS THEIR MOTHER TONGUE, 1961



N. A. DATA NOT AVAILABLE



THREE NUMERICALLY MOST IMPORTANT LANGUAGES IN THE STATES/UNION TERRITORIES, 1961

Purpose : This map intends to show the distribution of three numerically most important languages of the States/Union Territories of India in 1961.

Method : For each State/Union Territory, the percentage of the total number of persons speaking the first three predominant languages to its total population is calculated. The percentage data are then represented through pie-graphs for each State/Union Territory which are proportionately divided into four sectors to show the three numerically most important languages by different colours. The absolute and percentage figures for each language are written against the respective sectors. In all, 38 languages are represented in the map. The figures of N.E.F.A. are based on provisional figures available from simplified Census Schedules during 1965—66.

Salient Features : A geographical analysis of the map reveals the following facts :

1. *North-Eastern India* :—(Assam, Bihar, West Bengal, Orissa, Tripura, Manipur, Nagaland, N.E.F.A. and Sikkim).

In North-Eastern India, Bengali, Hindi, Bihari, Assamese and Oriya are the predominant languages. Bengali is the most important language in West Bengal and Tripura where 84.28% and 65.22% of the total population respectively speak Bengali. In Assam, 17.60% of the total population is Bengali speaking. Hindi ranks first among the three numerically important languages of Bihar (44.30%) but its importance diminishes in West Bengal (5.43%) and Assam (4.41%). Hindi language even dominates over Bihari in Bihar itself, where 35.39% of the total population returned Bihari. Assamese is, of course, the most important language (57.14% of the total population) in Assam. In Orissa, 82.31% of the total population speaks Oriya. Other than these five important languages of the North-Eastern Region, the importance of Manipuri/Meithei (64.46%) is high in Manipur and of Nepali (45.85%) in Sikkim. The Union Territories of North-East Frontier Agency and Nagaland are conspicuous with their very large share of population speaking languages (40.50% and 56.60% respectively) other than the numerically predominant languages spoken in their respective areas. There are several other languages which gain second or third positions on the basis of number of speakers. These are Urdu (8.93%) in Bihar, Santali (3.27%) in West Bengal, Tripuri (24.86%) and Manipuri/Meithei (2.45%) in Tripura, Tangkhul (5.63%) and Thado (3.87%) in Manipur, Sikkim-Bhotia (22.55%) and Lepcha (9.15%) in Sikkim. Taking this region as a whole, the pride of place is taken by Bengali followed by Hindi, Bihari, Oriya and Assamese in that order.

2. *North-Western India* :—(Uttar Pradesh, Punjab, Rajasthan, Himachal Pradesh, Delhi and Jammu and Kashmir)

The total population of this region is 121.8 millions, of which Hindi speakers are more numerous (68.33%) followed by speakers of Rajasthani (9.55%), Punjabi (8.66%) and Urdu (7.25%). The predominance of Hindi is strikingly high in this region which is the first predominant language in Uttar Pradesh with 85.39% of its population speaking the language, Punjab (55.64%) and Delhi (77.38%). It ranks second in Rajasthan (33.32%) and third in

Himachal Pradesh (49.10%) grouped with Pahari-Unspecified. Punjabi is the most predominant language in Punjab (11.09%) followed by Jammu and Kashmir (27.40%) and Delhi (11.94%). In Rajasthan, speakers of Rajasthani account for 56.49% of the total population. In Jammu and Kashmir, Kashmiri is the first predominant language (54.42%). Urdu is an important language among other languages spoken in the North-West Region. In Uttar Pradesh, 10.70% of the total population speaks Urdu whereas in Delhi 5.75% of the total population speaks Urdu. Besides the above languages, a few more languages gain second or third position in this area. Bhili accounts for 4.13% of the total population of Rajasthan, Pahari-Unspecified covers 38.47% of the total population in Himachal Pradesh and 6.84% of the total population in Jammu and Kashmir and Kumauni is spoken by 1.39% of the population of Uttar Pradesh.

3. *South-Eastern India* :—(Andhra Pradesh, Madras, Pondicherry, Kerala and Mysore)

The total population of the region is 110.5 millions and Telugu, Tamil and Malayalam are the three numerically most important languages of this region which account for respectively 32.94%, 27.36% and 15.22% of the total population of this region. Telugu is spoken widely in Andhra Pradesh (85.97%); Madras (9.99%); Pondicherry (4.40%) and Mysore (8.68%). Tamil is the first predominant language in Madras (83.17%) and Pondicherry (88.29%). It is the second important language in Kerala (3.12%). It is interesting to note that Rajasthani forms one of the three most important languages of Andhra Pradesh (1.62%). Malayalam is the most important language of Kerala (95.04% speakers) and Kannada that of Mysore (65.17%). Malayalam is the second important language of Pondicherry (5.61%) and Kannada is the third important language of Madras (2.81%).

4. *South-Western India* :—(Maharashtra, Gujarat, Madhya Pradesh, Dadra and Nagar Haveli and Goa, Daman and Diu)

Marathi, Hindi and Gujarati are the three numerically most important languages in this region which account for respectively 34.10%, 28.63% and 21.40% of the total population (9.32 millions). Marathi is the most important language of Maharashtra where 76.55% of the total population of the State speaks Marathi. This is the third important language in Madhya Pradesh (3.89%) and Goa, Daman and Diu (1.90%). This is again the most important language in Dadra and Nagar Haveli (58.86%). Hindi is the first numerically predominant language of Madhya Pradesh (78.07%) and third in Maharashtra (3.11%). Gujarati dominates in Gujarat (90.50%) and ranks second in Goa, Daman and Diu (5.57%) and third in Dadra and Nagar Haveli (19.54%).

5. *The Islands* :—(Andaman and Nicobar Islands and Laccadive, Minicoy and Amindivi Islands)

These two Islands are mostly settled by the people of the various States of the mainland. In Andaman and Nicobar Islands, Nicobarese is the most important language spoken by 21.92% of the total population which is followed by Bengali (21.80%) and Malayalam (10.50%). Again, Malayalam is mostly spoken in Laccadive and Minicoy Islands (83.08% of the total population). Besides, 16.53% of the population of these Islands speaks Mahl/Maldivian.

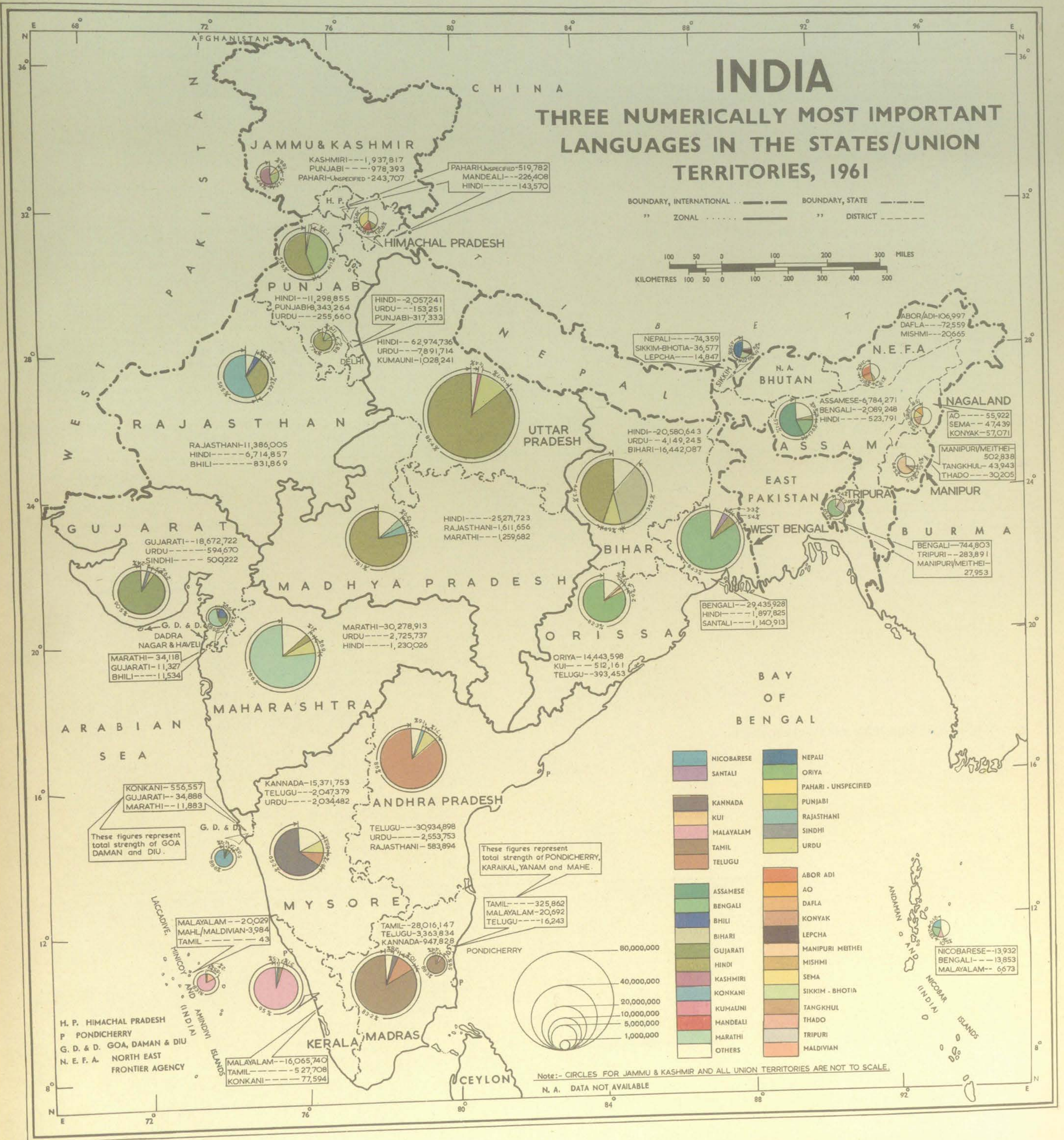
Source : Census of India, 1961, Vol. I, India, Part II-C(ii)—Language Tables.

INDIA

THREE NUMERICALLY MOST IMPORTANT LANGUAGES IN THE STATES/UNION TERRITORIES, 1961

BOUNDARY, INTERNATIONAL ... BOUNDARY, STATE ...
 " ZONAL ... " DISTRICT ...

100 50 0 100 200 300 MILES
 KILOMETRES 100 50 0 100 200 300 400 500



**PERCENTAGE OF POPULATION SPEAKING HINDI AS FIRST OR
SUBSIDIARY LANGUAGE, 1961**

Purpose : This map depicts the districtwise distribution of population speaking Hindi as first or subsidiary language in 1961.

Method : The districtwise percentages of population speaking Hindi as first or subsidiary language have been grouped into six ranges—three above, one nearer to and two below the National Average (32.58%). These ranges are shown by different types of hatching as given in the legend to the map and each district is hatched according to the percentage range it falls in. The districts for which data are not available have been kept blank.

Salient Features : The States of Bihar, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh and the Union Territories of Delhi and N.E.F.A., have Hindi as their first predominant language in terms of speakers of the languages. The 'Highest' percentage of speakers of Hindi spoken as first or subsidiary language is recorded in Sidhi district of Madhya Pradesh (99.90%) followed by Tikamgarh district of the same State (99.73%) and Mahendragarh district of Punjab (99.52%).

'Very High' proportions of population (above 90.00%) speaking Hindi as first or subsidiary language are found in 26 districts in the heart of Madhya Pradesh, 28 districts of Uttar Pradesh contiguous with the Hindi speaking districts along the northern border of Madhya Pradesh, Rohtak and Mahendragarh districts of Punjab on the western border of Uttar Pradesh and Alwar and Bharatpur districts of Rajasthan touching the western border of Uttar Pradesh and the north-western tip of Madhya Pradesh.

The proportions of Hindi speaking people decrease as one goes from the core of Hindi speaking areas to its periphery. These are the southern, eastern and western districts of Madhya Pradesh; the whole northern belt of Uttar Pradesh stretching from Uttar Kashi to Basti districts with the exception of Kheri district; the State of Bihar; the remaining districts of Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh.

The influence of Hindi goes on decreasing as one goes to the distant peripheral areas. Even then the percentages can be said to be 'quite high'

(50.01—70.00%) in 4 districts (Mandsaur, Ratlam, Dhar and Indore) of Madhya Pradesh, 5 districts (Nainital, Bijnor, Moradabad, Rampur and Dehra Dun) of Uttar Pradesh, 4 districts (Patna, Gaya, Purnea and Dhanbad) of Bihar, 4 districts (Ambala, Simla, Hoshiarpur and Gurdaspur) of Punjab and Jhalawar district of Rajasthan.

The percentages of population speaking Hindi as first or subsidiary language are, however, in the 'medium' range, i.e., 30.01—50.00% which is nearer to the National Average (32.58%) in some of the districts of Hindi speaking States/Union Territories. These are Ujjain, West Nimar and East Nimar of Madhya Pradesh; Santal Parganas and Ranchi of Bihar; Jullundur, Ferozepur, Patiala and Sangrur of Punjab; Ajmer, Udaipur, Bundi and Kota of Rajasthan; Bilaspur and Sirmur of Himachal Pradesh and N.E.F.A.

'Low' percentages (10.01—30.00%) are recorded in Non-Hindi speaking as well as in Hindi speaking States/Union Territories.

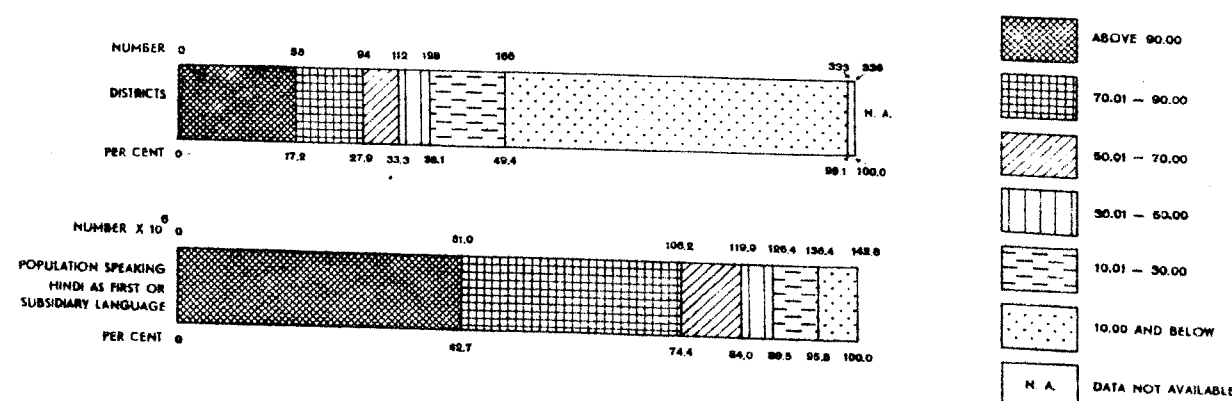
The percentages of population speaking Hindi as first or subsidiary language are 'Very Low' (10.00% and below) in the southern States of Andhra Pradesh, Madras, Mysore and Kerala, the western States of Gujarat and Maharashtra (except the districts of Greater Bombay, Akola, Amravati, Wardha, Nagpur and Bhandara), the northern State of Jammu and Kashmir, the eastern States of Assam (except the districts of Lakhimpur and Cachar), West Bengal (except the districts of Darjeeling and Jalpaiguri) and Orissa (except the district of Sundargarh) and the Union Territories of Laccadive, Minicoy and Amindivi Islands, Manipur, Tripura, Dadra and Nagar Haveli, Pondicherry and Nagaland. It is interesting to note that the percentages are very low in some of the districts of Hindi speaking States/Union Territories themselves, viz., 2 districts (Pithoragarh and Tehri Garhwal) in the extreme northern hill districts of Uttar Pradesh, ten districts (Bikaner, Churu, Sikar, Jaisalmer, Nagaur, Pali, Barmer, Jalor, Chitorgarh and Dungarpur) of Rajasthan and Chamba district in the Union Territory of Himachal Pradesh.

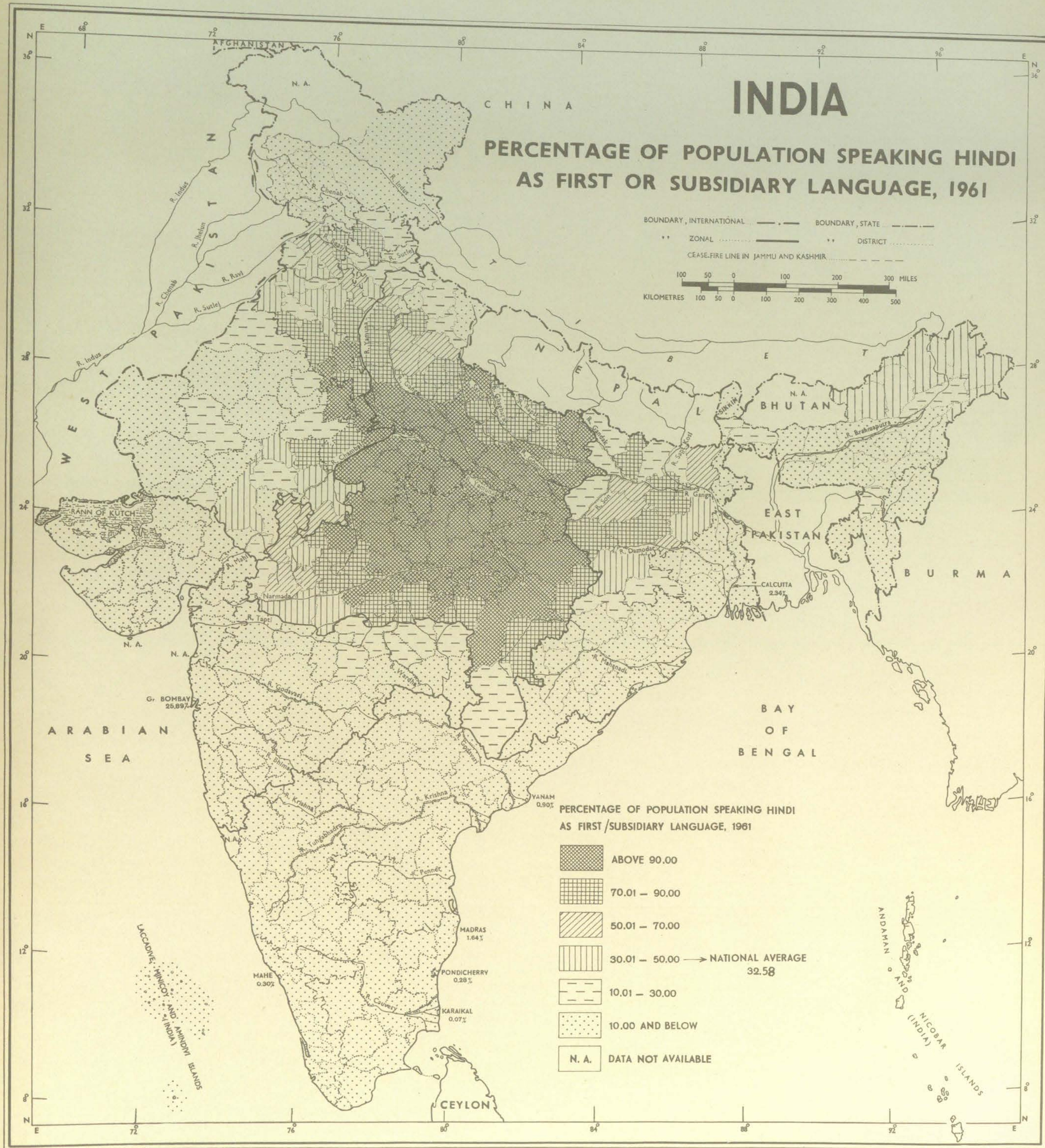
Among the Non-Hindi speaking areas the lowest percentage (0.06%) is recorded in Ramanathapuram district of the State of Madras.

Sl. No.	State/Union Territory	Population	Persons Speaking Hindi			Percentage of col. 6 to col. 3
			as first language	as subsidiary language	Total	
1	2	3	4	5	6	7
INDIA*						
	...	439,234,771	133,433,697	9,363,068	142,796,765	32.58
STATES						
1	Andhra Pradesh	35,983,447	138,968	300,623	439,591	1.22
2	Assam	11,872,772	523,791	274,569	798,360	6.72
3	Bihar	46,455,610	20,580,643	1,712,770	22,293,413	47.99
4	Gujarat	20,633,350	192,407	525,364	717,771	3.48
5	Jammu and Kashmir	3,560,976	22,328	61,566	83,894	2.36
6	Kerala	16,903,715	7,327	35,274	42,601	0.25
7	Madhya Pradesh	32,372,408	25,271,723	1,606,955	26,878,678	83.03
8	Madras	33,686,953	38,989	29,818	68,807	0.20
9	Maharashtra	39,553,718	1,230,026	2,435,711	3,665,737	9.27
10	Mysore	23,586,772	81,836	219,046	300,882	1.28
11	Orissa	17,548,846	219,525	139,250	358,775	2.04
12	Punjab	20,306,812	11,298,855	471,870	11,770,725	57.96
13	Rajasthan	20,155,602	6,714,857	169,425	6,884,282	34.66
14	Uttar Pradesh	73,746,401	62,974,736	631,071	63,605,807	86.25
15	West Bengal	34,926,279	1,897,825	434,103	2,331,928	6.68
UNION TERRITORIES AND OTHER AREAS						
1	Andaman and Nicobar Islands	63,548	3,573	10,240	13,813	21.74
2	Delhi	2,658,612	2057,241	122,150	2,179,391	81.97
3	Himachal Pradesh	1,351,144	143,570	136,020	279,590	20.69
4	Laccadive, Minicoy and Amindivi Islands	24,108	2	65	67	0.28
5	Manipur	780,037	2,379	23,095	25,474	3.27
6	Tripura	1,142,005	18,607	2,089	20,696	1.81
7	Dadra and Nagar Haveli	57,963	352	754	1,106	1.91
8	Goa, Daman and Diu	626,667	N.A.	N.A.	N.A.	N.A.
9	Pondicherry	369,079	461	452	913	0.25
10	North-East Frontier Agency	38,705	7,037	7,855	14,892	38.48
11	Nagaland	369,200	4,486	8,997	13,483	3.65
12	SIKKIM	162,189	2,153	3,936	6,089	3.75

* National Average has been calculated after excluding that portion of North-East Frontier Agency where simplified Census Schedule instead of All-India Census Schedule was canvassed, i.e., 297,853 (Persons) and Goa, Daman and Diu for which data are not available.

Source : Census of India, 1961, Vol. I, India, Part II-C(ii)—Language Tables.





Education

MAP 155

LITERACY, 1961 (PERCENTAGE OF LITERATES TO TOTAL POPULATION EXCLUDING AGE GROUP 0—4, 1961)

Purpose : This map depicts the proportion of literates to total population of age 5 and above. A literate is defined by the 1961 Census as "a person who can both read and write".

Method : The percentage figures of literates calculated for individual districts are grouped into five categories—two above, one nearer to and two below the National Average (28.30%). The districts are hatched in accordance with the percentages as shown in the index.

Salient Features : The overall proportion of literates to total population of age 5 and above is only 28.30% in the country. There is a marked regional disparity in the level of literacy. For instance, the proportion of literates in Mahe district of Pondicherry is 71.23% while that in Tuensang district of Nagaland is only 5.12%.

A very high level of literacy (above 38.00%) prevails in the areas which are culturally and economically developed. In all, 52 districts show a very high level of literacy (more than 38.00%) which are mostly in the peninsular and north-eastern parts of the country. The entire west coast region from Mehsana district in Gujarat to Kanyakumari district in Madras except three districts of Maharashtra State and Goa, shows a very high level of literacy. The literacy level is very high in some industrial belts, such as, in Calcutta Industrial Region comprising 24 Parganas, Calcutta, Howrah and Hooghly districts; industrial hinterland of Bombay-Poona and Satara districts; Nagpur and Amravati basin; Indore district in Madhya Pradesh and Jullundur and Ludhiana districts in Punjab State. The literacy level is also very high in the north-eastern part of the country, viz., the Union Territory of N.E.F.A., Mizo Hills and Sibsagar districts in Assam Valley.

The districts falling in the next high level of literacy (29.01—38.00%) are usually contiguous with the areas of very high level of literacy. These districts form six distinct regions—i) parts of Maharashtra Plateau; ii) Kathiawar Peninsula excluding Rajkot district; iii) Tamilnad plains; iv) coastal

districts of Andhra Pradesh, Orissa and West Bengal States; v) Punjab plains and vi) north-eastern part of the country embracing the Union Territory of Manipur and the districts of Lakhimpur, Nowgong, Kamrup and United Khasi and Jaintia Hills of Assam State and Mokokchung district of Nagaland. The high literacy rate also prevails in a few districts of Madhya Pradesh (3), Uttar Pradesh (3), Bihar (2) and Rajasthan (1).

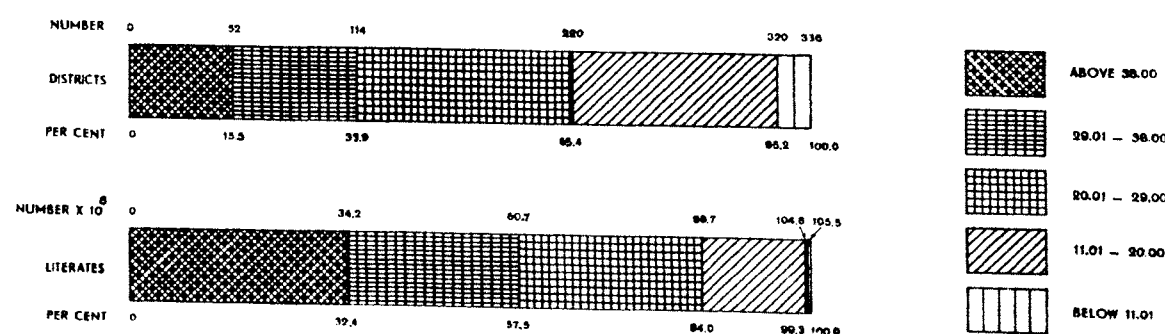
Over a large part of the country, the level of literacy is medium (20.01—29.00%). The districts showing this medium level of literacy are found in compact areas spread all over the country. These are in the south-central part of the peninsula embracing Rayalaseema Region of Andhra Pradesh, Tamilnad Uplands and eastern Karnataka Plateau, north-western part of the country embracing western Rajasthan, southern Punjab and western Uttar Pradesh, Chotanagpur Plateau, Mahanadi basin, Maharashtra Plateau and Ganga basin of eastern Uttar Pradesh and northern Bihar. A few blocks of medium level of literacy are revealed in western Madhya Pradesh, Maharashtra, West Bengal and Assam States.

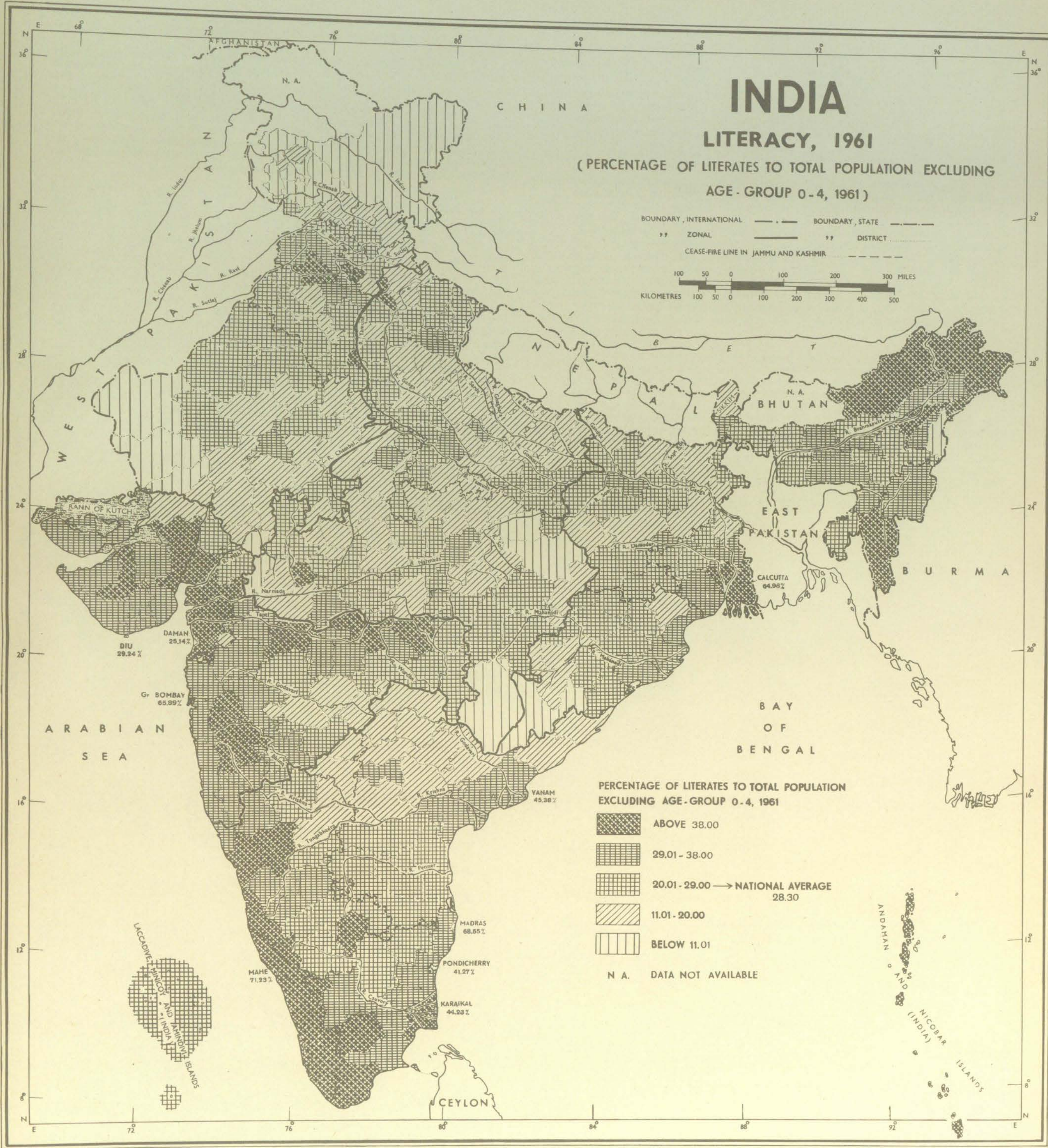
The low level (11.01—20.00%) of literacy is observed in central and northern part of the country. The Upper Telangana Plateau and its contiguous district in Mysore and Maharashtra States form a fairly big Chunk showing low level of literacy in southern part of the country. Similarly, a large area embracing 25 districts in Avadh and middle Ganga Plains records a low level of literacy. The percentages of literates are also low in southern and eastern Rajasthan, Bundelkhand and Malwa Plateaus of Madhya Pradesh. Three districts in northern Chotanagpur Plateau and two districts of West Bengal and three districts in Terai Region of Bihar form one belt showing low level of literacy. Seven districts shared by Jammu and Kashmir, Punjab, Himachal Pradesh and Uttar Pradesh form the other belt of low literacy in the north-west.

The districts showing the lowest level of literacy (below 11.01%) lie mostly in Kashmir Himalayas in the State of Jammu and Kashmir.

Sl. No.	State/Union Territory	Total population excluding age group 0—4 1961	Literates 1961	Percentage of literates to total population excluding age group 0—4 1961
1	2	3	4	5
INDIA		372,834,280	105,518,761	28.30
STATES				
1	Andhra Pradesh	30,980,851	7,626,527	24.62
2	Assam	9,849,592	3,248,055	32.98
3	Bihar	39,297,575	8,547,845	21.75
4	Gujarat	17,362,220	6,283,256	36.19
5	Jammu and Kashmir	3,034,010	392,761	12.95
6	Kerala	14,376,555	7,919,220	55.08
7	Madhya Pradesh	27,076,984	5,544,862	20.48
8	Madras	29,077,184	10,580,616	36.39
9	Maharashtra	33,618,906	11,793,070	35.08
10	Mysore	20,100,150	5,990,585	29.80
11	Orissa	15,061,879	3,801,245	25.24
12	Punjab	17,094,090	4,917,396	28.77
13	Rajasthan	16,917,838	3,065,568	18.12
14	Uttar Pradesh	62,785,803	13,013,183	20.73
15	West Bengal	29,676,921	10,225,664	34.46
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	53,337	21,372	40.07
2	Delhi	2,263,577	1,402,298	61.95
3	Himachal Pradesh	1,161,359	231,664	19.95
4	Laccadive, Minicoy and Amindivi Islands	20,662	5,610	27.15
5	Manipur	658,397	237,276	36.04
6	Tripura	949,807	231,188	24.34
7	Dadra and Nagar Haveli	47,582	5,495	11.55
8	Goa, Daman and Diu	552,038	192,716	34.91
9	Pondicherry	316,527	138,149	43.65
10	North-East Frontier Agency	35,517	17,024	47.93
11	Nagaland	323,593	66,117	20.43
12	Sikkim	141,326	19,999	14.15

Source: Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





INTERCENSAL CHANGE IN LITERACY, 1951—61

Purpose : This map intends to depict the decade variation in literacy rates during 1951—61 in India.

Method : For each of the districts, the percentages of literates to total population excluding those in age group 0—4 in 1951 and 1961 are calculated. The intercensal change in literacy rate is derived by subtracting the percentage of 1951 from that of 1961. These districtwise changes are depicted in the map by grouping them into 6 ranges—two above, one nearer to and three below the National Average (10·20%) and the districts are hatched according to the values as given in the index. Only one district namely Fatehpur in Uttar Pradesh has a negative value of literacy rate.

Salient Features : According to 1951 Census, the total population excluding the age group 0—4 in India was 306·9 millions of which 55·8 millions or 18·20% were literates. The population excluding the age group 0—4 has increased by 65·7 millions in 1961 of which 28·32% are literates. But this percentage of literacy works out to 28·40% after excluding the population aged 5 years and above for 1961 in respect of the State of Jammu & Kashmir and the Union Territories of Dadra & Nagar Haveli; Goa, Daman & Diu; Pondicherry and N.E.F.A. for which comparable figures for 1951 are not available. Thus the literacy rate for the country as a whole recorded an increase of 10·20% during the decade. The maximum increase in literacy rate during this decade was recorded in the Union Territory of Delhi (24·69%) while in Fatehpur district of Uttar Pradesh the rate of literacy declined by 7·57%.

Within a span of ten years, the literacy rate has increased by more than 14·00% in 36 districts which are scattered in various parts of the country. The four discernible regions recording this high rate of increase are : (1) Southern Peninsula embracing Madras State (excluding North Arcot and Salem districts) and Kozhikode district of Kerala State; (2) Eastern Hill Region comprising Garo Hills, United Khasi & Jaintia Hills, Mizo Hills and Lakhimpur districts of Assam State and the Union Territory of Manipur; (3) Punjab Plain and Hill districts, *viz.*, Mahendragarh, Gurgaon, Patiala, Ambala, Simla and Kapurthala and the Union Territory of Delhi and (4) Konkan Coast comprising Ratnagiri, Kolhapur and Satara districts in the south-western part of Maharashtra State. The districts of Bikaner in Rajasthan; Ahmedabad in Gujarat; Gwalior, Indore,

Sehore and Jabalpur in Madhya Pradesh; Cuttack and Balasore in Orissa and Nadia in West Bengal have recorded signal rise in literacy rates.

Only 26 districts have recorded a gain in literacy rate between 12·01% and 14·00% during 1951—61. They form small pockets, sporadically distributed throughout the country.

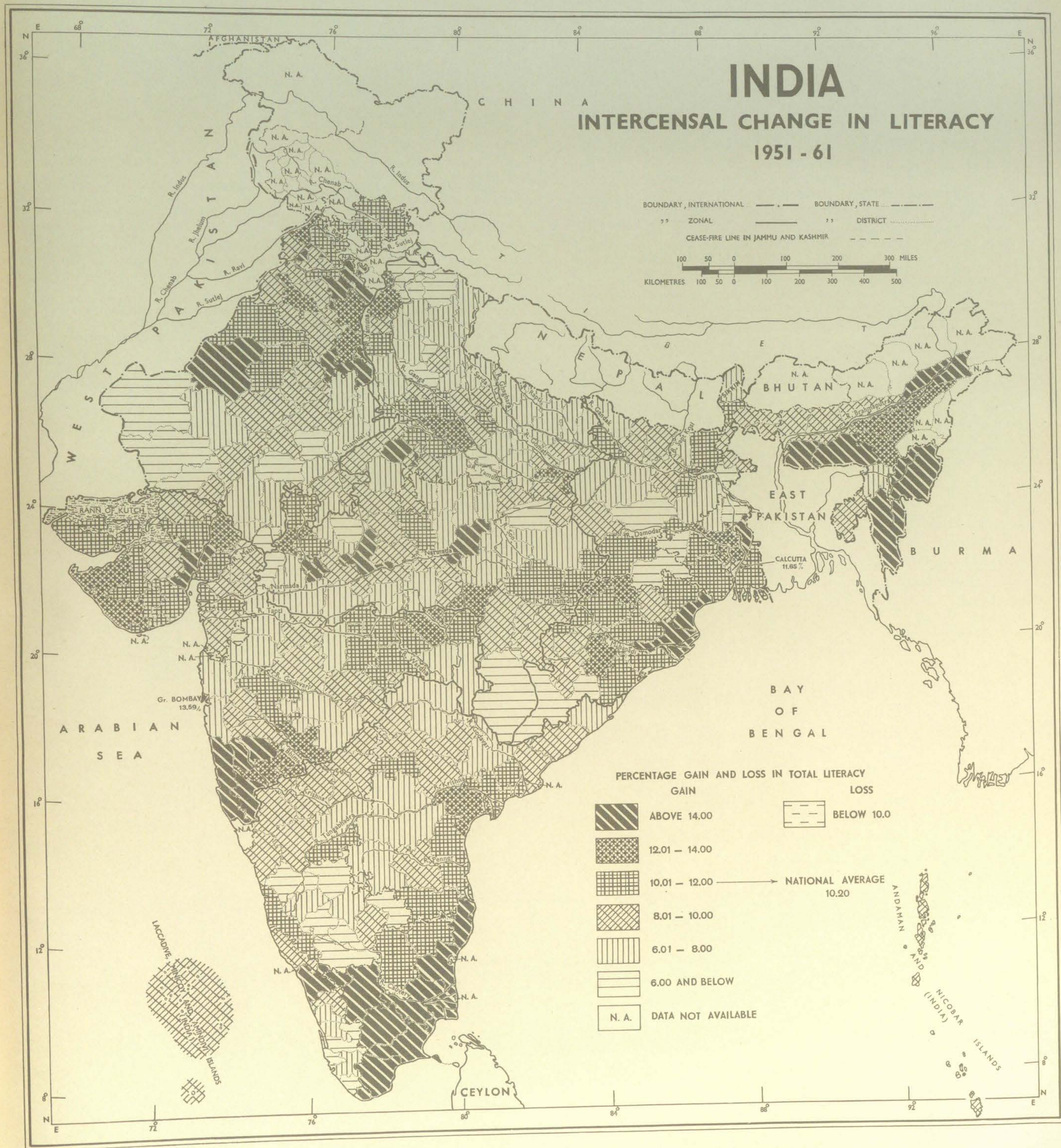
56 districts have rate of change (increase) in literacy between 10·01% and 12·00% which is nearer to the National Average (10·20%). Most of them lie in the peninsular part of the country. These districts are mainly in the north-eastern part of peninsular plateau, eastern Maharashtra plateau, Hooghly delta, Andhra coast, Tamilnad uplands, Kutch & Kathiawar peninsula and in the Punjab Himalaya and its contiguous foothill districts.

The proportions of change in literacy rate in the range (8·01—10·00%) are noticeable in 79 districts of the country. A tri-pronged tract comprising some of these districts stretches over Telangana Plateau, northern Karnataka Plateau and Maharashtra Plateau in Central Peninsula. The Aravalli hills and its contiguous Punjab plain also show marked intercensal change in literacy rate within this range.

79 districts exhibit a low intercensal change (6·01—8·00%) in literacy rate. They are distributed throughout the country but are more numerous in the Central plateaus and northern plains. Uttar Pradesh (25) and Madhya Pradesh (15) between themselves share about half of this number. Avadh plains, Rohilkhand plains and Kumaun Himalayas in Uttar Pradesh and Satpura highlands and Vindhyan Scarplands in Madhya Pradesh also show this low rate of increase in intercensal change of literacy. Some patches with low rate of intercensal change in literacy are also visible in Maharashtra, Andhra Pradesh, Rajasthan, Bihar and Kerala States.

Only 32 districts show gain in literacy rate less than 6·01% during 1951—61. These districts lie mostly in the underdeveloped parts of the country where the level of literacy in 1951 was low. They are the Kumaun Himalayas in Uttar Pradesh and arid part of Rajasthan, Chotanagpur plateau and Dandakaranya region in Madhya Pradesh. In a few districts of Malabar coast, the level of literacy is high but the intercensal change in literacy is low during this decade (1951—61).

Source : 1 Data supplied by the Superintendents of Census Operations.
2 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.



MAP 157

MALE LITERACY, 1961
(PERCENTAGE OF MALE LITERATES TO TOTAL MALE POPULATION
EXCLUDING AGE GROUP 0-4, 1961)

Purpose : This map shows the regional variations in the proportions of male literates to total male population excluding age group 0-4 in India in 1961.

Method : The districtwise percentage figures of male literates are grouped into six ranges—two above, one nearer to and three below the National Average (40.39%). The districts are hatched according to their percentage values of literacy as shown in the legend to the map.

Salient Features : The total male population of the country excluding those in age group 0-4 is 192.96 millions of which 77.94 millions or 40.39% are literates. The proportion of male literates is the highest in Mahe district of Pondicherry (83.43%) and the lowest in Tuensang district of Nagaland (7.93%). Districts in overwhelming number record literacy rates below the National Average (40.39%).

The districts showing an exceptionally high level of male literacy are highly urbanised areas, such as, Madras (79.76%), Greater Bombay (71.85%), Calcutta (68.51%) etc. Very high level of male literacy (more than 52.50%) is observed in southernmost part of the peninsula, north-eastern hill areas, Maharashtra plateau, Bhagirathi delta and Gujarat plains. In southern part of Peninsula, the entire State of Kerala excluding Palghat district; Nilgiri, Kanyakumari, Madurai, Tirunelveli, Ramanathapuram and Thanjavur districts of Madras State and the entire Union Territory of Pondicherry record a high literacy rate of male population. In the north-east, the area showing high level of male literacy embraces the Union Territories of N.E.F.A. and Manipur and the Mizo Hills district of Assam State. In Maharashtra Plateau, there are three pockets showing a high level of male literacy—i) Poona and Satara districts in the hinterland of Bombay; ii) Jalgaon district and iii) three districts in Nagpur basin. The districts of Howrah, Hooghly and Calcutta of West Bengal in the Hooghly Industrial Region record high male literacy rates. A continuous belt stretching from Broach district to Mehsana district in Gujarat plains also shows a high male literacy rate. There are a few other scattered pockets with a high proportion of male literates, such as, Indore district in Madhya Pradesh, the Union Territory of Delhi, Simla district in Punjab, Dehra Dun district in Uttar Pradesh, Dharwar district in Mysore, Hyderabad

district in Andhra Pradesh and Puri, Cuttack and Balasore districts in Orissa.

The percentages of high male literates ranging between 45.01% and 52.50% are in 44 districts. They lie mostly along the West Coast Region; the Kumaun Himalayas, Kathiawar Peninsula, Southern Bengal basin and Tamilnad coast.

The literacy rates falling under the third range (37.51-45.00%) are recorded in 64 districts which are sporadic in distribution. They occur largely in south-central peninsula, Punjab plains, Malwa plateau, Kathiawar peninsula, eastern plateaus, Assam Valley and Ganga Plains.

Over a large part of the country, the literacy rates range between 30.01% and 37.50%. 80 districts fall under this range of which about two-thirds lie in the northern part of the country. They are concentrated in the Upper Ganga Plains, southern Punjab plains and its neighbouring part of Rajasthan State and Himachal Pradesh. The central and eastern plateaus and south-central peninsula are the other areas where several districts recorded percentages in this range.

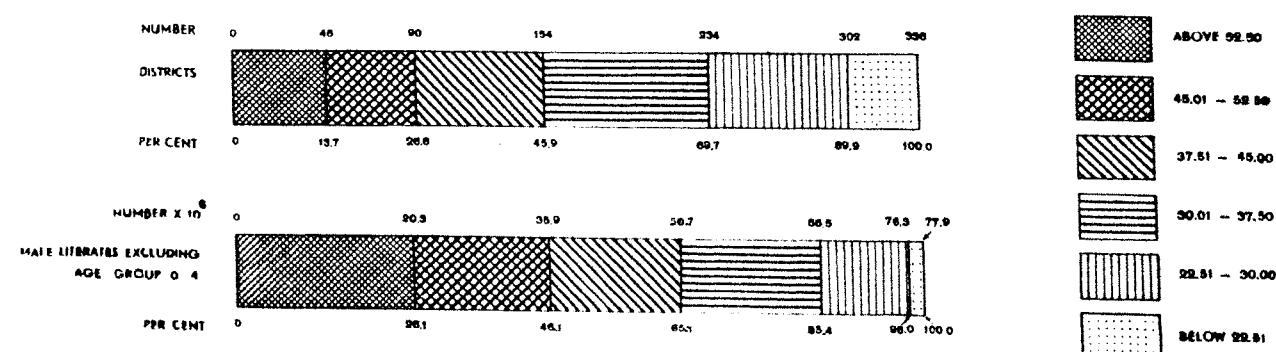
The level of literacy in 68 districts falls in the range of 22.51% to 30.00%. These districts are more in the North than in the South. In peninsular part, these are in the Telangana Plateau and its adjoining parts of Maharashtra plateau. In northern part, the most notable tract showing low level of male literacy is the central part of Ganga plain. The third region of low literacy rate embraces eastern Rajasthan hills, Malwa Plateau and Chambal basin. A narrow strip comprising the districts of Palamau, Hazaribagh and Santal Paraganas of Bihar and Murshidabad and Malda districts of West Bengal also shows a low level of male literacy.

Literacy rates are in the lowest range (below 22.51%) in the inaccessible forested hilly plateaus and desert parts of the country. The dominated areas of low literacy are western Rajasthan desert, Bundelkhand region, Baghelkhand region, Dandakaranya region, Rohilkhand plains and north and south Kashmir Himalayas. Except two districts (Jammu and Srinagar), the entire State of Jammu & Kashmir falls under this range.

Sl. No.	State/Union Territory	Total male population excluding age group 0-4 1961	Male literates 1961	Percentage of male literates to total male population excluding age group 0-4 1961
1	2	3	4	5
	INDIA*	192,958,945	77,939,833	40.39
	STATES			
1	Andhra Pradesh	15,671,866	5,482,333	34.98
2	Assam	5,334,214	2,361,724	44.28
3	Bihar	19,750,570	6,950,967	35.19
4	Gujarat	8,974,257	4,373,373	48.73
5	Jammu and Kashmir	1,629,775	321,827	19.75
6	Kerala	7,083,193	4,596,265	64.89
7	Madhya Pradesh	13,925,579	4,481,454	32.18
8	Madras	14,600,638	7,532,323	51.59
9	Maharashtra	17,436,505	8,588,657	49.26
10	Mysore	10,291,739	4,352,428	42.29
11	Orissa	7,556,810	3,042,004	40.26
12	Punjab	9,226,141	3,591,177	38.92
13	Rajasthan	8,921,874	2,504,983	28.08
14	Uttar Pradesh	33,072,865	10,546,795	31.89
15	West Bengal	16,004,416	7,454,006	46.57
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	34,199	16,675	48.76
2	Delhi	1,285,688	904,801	70.37
3	Himachal Pradesh	607,181	191,139	31.48
4	Laccadive, Minicoy and Amindivi Islands	10,185	4,273	41.95
5	Manipur	326,554	174,656	53.48
6	Tripura	495,840	175,060	35.31
7	Dadra and Nagar Haveli	24,514	4,342	17.71
8	Goa, Daman and Diu	264,929	118,111	44.58
9	Pondicherry	156,985	92,384	58.85
10	North-East Frontier Agency*	28,924	15,438	53.38
11	Nagaland	168,722	45,917	27.21
12	Sikkim	74,782	16,721	22.36

* Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

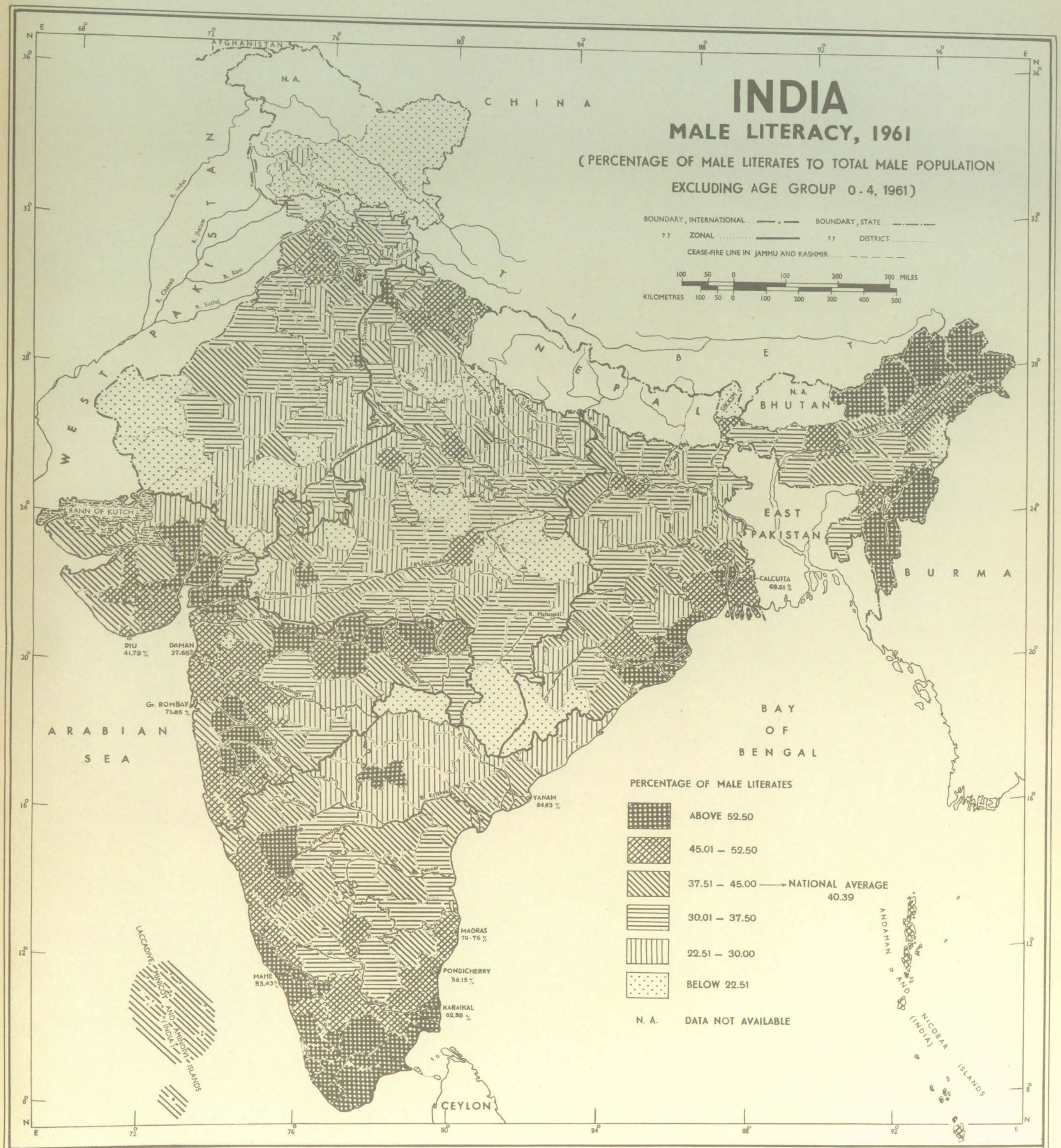
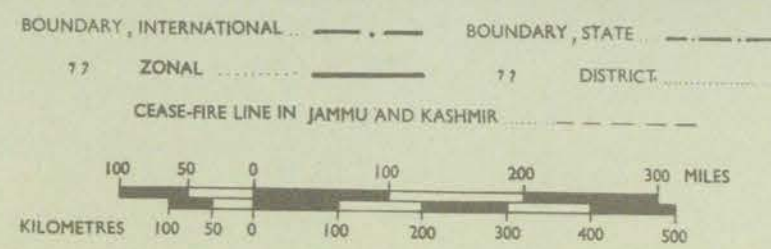
Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.



INDIA

MALE LITERACY, 1961

(PERCENTAGE OF MALE LITERATES TO TOTAL MALE POPULATION
EXCLUDING AGE GROUP 0-4, 1961)



FEMALE LITERACY, 1961
(PERCENTAGE OF FEMALE LITERATES TO TOTAL FEMALE
POPULATION EXCLUDING AGE GROUP 0—4, 1961)

Purpose : This map shows the proportions of female literates to total female population excluding the age group 0—4 in India in 1961.

Method : Districtwise percentage figures of female literates are calculated and are shown by choropleth method by grouping the data into six categories—two above, one nearer to and three below the National Average (15.33%) as shown in the index of the map.

Salient Features : The female literacy is yet to reach the desired level in India. On the whole, only 15.33% of the female population excluding age group 0—4 is literate in India. A cursory look at the map reveals that the percentages of female literacy are higher in southern part than in northern part of the country.

The six categories of female literacy may be distinguished as high literacy rate (above 34.00%), moderately high literacy rate (18.01—34.00%), medium literacy rate (10.01—18.00%), low literacy rate (6.01—10.00%), very low literacy rate (4.01—6.00%) and extremely low literacy rate (below 4.01%).

The high rates of female literacy (above 34.00%) prevail in 17 districts which roughly account for only 2.0% area of the country. Nine out of 17 districts are seen in a region stretching along Malabar coast from Kanyakumari district of Madras to Cannanore district of Kerala State. The female literacy is high as expected in the districts with metropolitan cities, such as, Greater Bombay, Madras, Calcutta, Ahmedabad and the Union Territory of Delhi.

Female literacy rates are moderately high (18.01—34.00%) in the areas which are generally contiguous with areas having high literacy rates. In Peninsular India, the districts showing moderately high literacy rates form an elongated belt stretching from Gujarat Plain to Cape Comorin contiguous with Ahmedabad, Bombay and Malabar coast. The Union Territories of N.E.F.A. and Manipur and the districts of Lakhimpur, Sibsagar, Nowgong, Cachar,

United Khasi & Jaintia Hills in Assam State form another fairly big region of these literacy rates.

79 districts show medium literacy rates (10.01—18.00%), most of these are in Peninsular India. The most conspicuous region having this literacy rate extends over Rayalaseema, northern Tamilnad and the south-eastern part of Karnataka Plateau.

The low level of female literacy (6.01—10.00%) is noticeable in 85 districts most of which are found in northern part of the country. In central India, the districts of this literacy range are distributed in Mahanadi basin, Telangana Plateau, Maharashtra Plateau, northern Karnataka Plateau and northern part of Orissa State. A large area of the northern plain lying in eastern Uttar Pradesh and Bihar States exhibits low rate of female literacy.

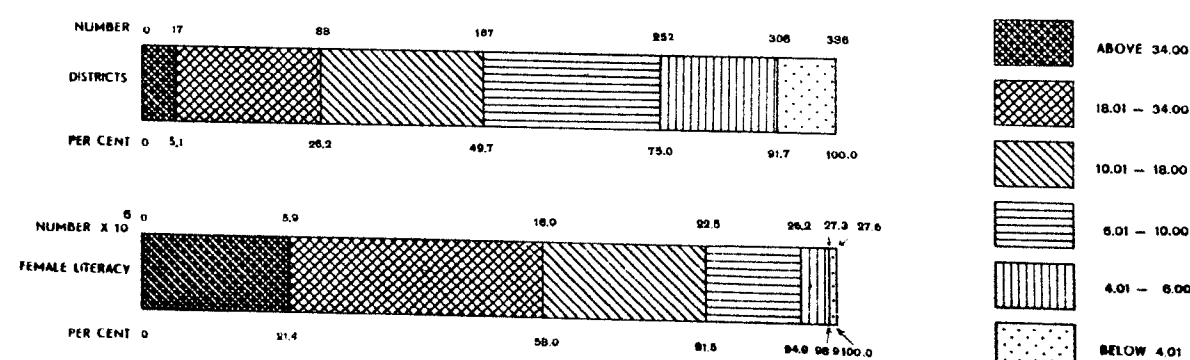
The districts numbering 56 with very low level of female literacy (4.01—6.00%) are scattered in small patches in the vicinities of low literacy areas. A large number of these districts occur in eastern half of Rajasthan, Malwa Plateau, Bundelkhand Upland, Upper Telangana Plateau and Avadh Plain of Uttar Pradesh. In the foothill zone of Kashmir Himalayas and Chotanagpur region of Bihar State, the districts of these literacy rates form elongated belts. Some districts in Orissa and Gujarat States also record the similar percentages of female literacy.

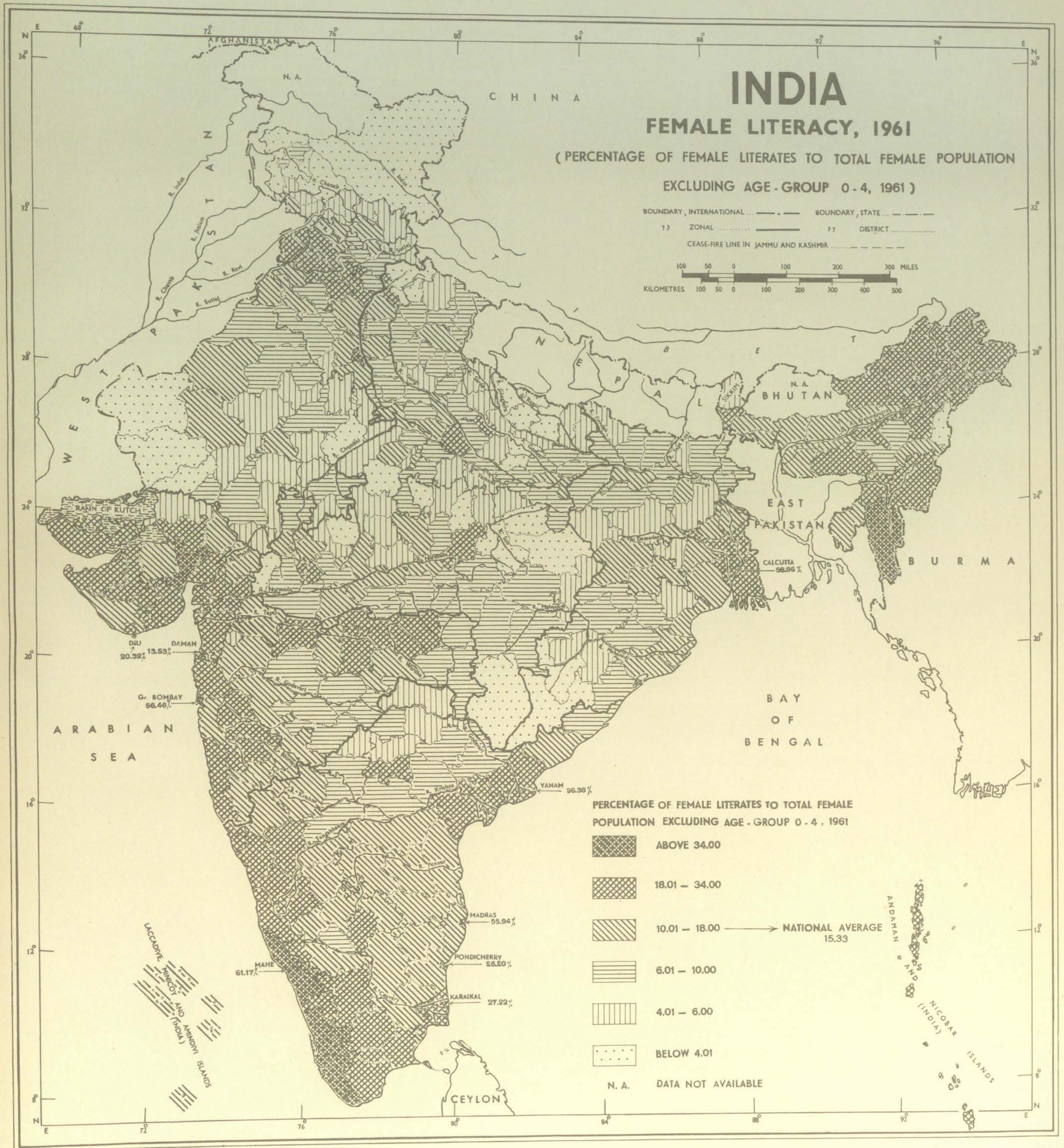
In all, 28 districts with extremely low rates of female literacy (below 4.01%) are found in the central, western and northern parts of the country. These districts are economically handicapped and most of these are populated by tribal groups. A large number of these districts form four distinct blocks—the hill region of Jammu and Kashmir, arid part of western Rajasthan, Baghelkhand Plateau in north-eastern Madhya Pradesh and Dandakaranya region. The remaining districts of this group are scattered in Kashmir Himalayas, hill districts of Uttar Pradesh and Malwa Plateau region.

Sl. No.	State/Union Territory	Total female population excluding age group 0—4 1961	Female literates 1961	Percentage of female literates to total female population excluding age group 0—4 1961
1	2	3	4	5
INDIA*	...	179,875,335	27,578,928	15.33
STATES				
1 Andhra Pradesh	...	15,308,985	2,144,194	14.01
2 Assam	...	4,515,378	886,331	19.63
3 Bihar	...	19,547,005	1,596,878	8.17
4 Gujarat	...	8,387,963	1,909,883	22.77
5 Jammu and Kashmir	...	1,404,235	70,934	5.05
6 Kerala	...	7,293,362	3,322,955	45.56
7 Madhya Pradesh	...	13,151,405	1,063,408	8.09
8 Madras	...	14,476,546	3,048,293	21.06
9 Maharashtra	...	16,182,401	3,204,413	19.80
10 Mysore	...	9,808,411	1,638,157	16.70
11 Orissa	...	7,505,069	759,241	10.12
12 Punjab	...	7,867,949	1,326,219	16.86
13 Rajasthan	...	7,995,964	560,585	7.01
14 Uttar Pradesh	...	29,712,938	2,466,388	8.30
15 West Bengal	...	13,672,505	2,771,658	20.27
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	19,138	4,697	24.54
2 Delhi	...	977,880	497,497	50.87
3 Himachal Pradesh	...	554,178	40,525	7.31
4 Laccadive, Minicoy and Amindivi Islands	...	10,477	1,337	12.76
5 Manipur	...	331,843	62,620	18.87
6 Tripura	...	453,967	56,128	12.36
7 Dadra and Nagar Haveli	...	23,068	1,153	5.00
8 Goa, Daman and Diu	...	287,109	74,605	25.98
9 Pondicherry	...	159,542	45,765	28.69
10 North-East Frontier Agency*	...	6,593	1,586	24.06
11 Nagaland	...	154,871	20,200	13.04
12 SIKKIM	...	66,544	3,278	4.93

* Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





INTERCENSAL CHANGE IN FEMALE LITERACY, 1951—61

Purpose : This map seeks to show the changes in female literacy rate in India during 1951—61.

Method : For measuring the decadal changes in female literacy, the districtwise percentage of female literates to total female population excluding the age group 0—4 are calculated separately for 1951 and 1961. The variation derived by subtracting the percentage figures of 1951 from those of 1961 for each of the districts, indicates the change in female literacy rate during 1951—61. These districtwise variation figures are grouped into six ranges—two above, one nearer to and three below the National Average (6.62%) and are shown in the map as given in the index. The decline in the female literacy rate is shown by a different hatching.

Salient Features : In 1951, 8.77% of the female population excluding age group 0—4 was literate. Within a span of 10 years, this figure has increased to 15.39%. Thus the country has experienced an overall increase of 6.62% in female literacy rate during 1951—61. The Union Territory of Delhi recorded the highest increase (22.14%) followed by Mizo Hills district in Assam State (20.87%), Madras district in Madras State (17.92%) etc. The female literacy increased significantly in the East and West Coasts, in Tamilnad Plateau and in the north-eastern part of the country. Only five districts in the country showed a decline in female literacy rate during this decade. These are the districts of Fatehpur (—17.36%) in Uttar Pradesh, Singhbhum (—0.82%) and Saharsa (—0.05%) in Bihar and Kinnaur (—0.40%) and Mahasu (—0.04%) in Himachal Pradesh.

Only 22 districts in the country recorded an increase in female literacy by more than 12.00% during the decade 1951—61. They include the highly urbanised districts of Madras, Greater Bombay, Simla, Ahmedabad, Indore, the Union Territory of Delhi etc. The two compact areas showing high increase in literacy rate are—1) The Upper Assam Valley (Lakhimpur, Sibsagar and Nowgong districts) and its southern hill areas (United Khasi & Jaintia Hills and Mizo Hills districts) and the Union Territory of Manipur in the eastern part and 2) The southernmost part of Peninsula comprising the districts of Madurai, Nilgiri, Tirunelveli and Kanyakumari in Madras State and Kozhikode district in Kerala State.

The number of districts falling in the next range (8.01—12.00%) are 57

in number. Most of these districts are in the coastal areas of Peninsular India.

85 districts recorded an increase in female literacy between 5.01% and 8.00%. About half of these districts are in the Peninsular India lying mainly in Maharashtra Plateau (10), Karnataka Plateau (7), Kathiawar Peninsula (7), Orissa Plateau (5), Malabar Coast (4), Tamilnad uplands (2), Rayalaseema region (3) etc. In the north-western part of the country, there are 20 districts whose change in female literacy rate falls under this range. These are distributed as 7 districts in western Uttar Pradesh, 8 districts in Punjab and 5 districts in Rajasthan. Some districts lying in the eastern hills and lower Assam Valley also show similar increase in female literacy rate. A few other districts having the same rate of increase are scattered in the States of Madhya Pradesh, Bihar and West Bengal.

A large number of districts (90) have shown the increase in female literacy rate between 3.01% and 5.00%. A large tract lying in the interior of southern Peninsula is formed by some of these districts. It comprises 10 districts in Andhra Pradesh and 7 districts each in Maharashtra and Mysore States. About half of the total districts falling under this range are distributed in northern zone embracing the States of Uttar Pradesh (24) and Madhya Pradesh (19). North Bihar plains, Aravalli Hills area in Rajasthan and Orissa plateaus also show the same rate of increase in female literacy.

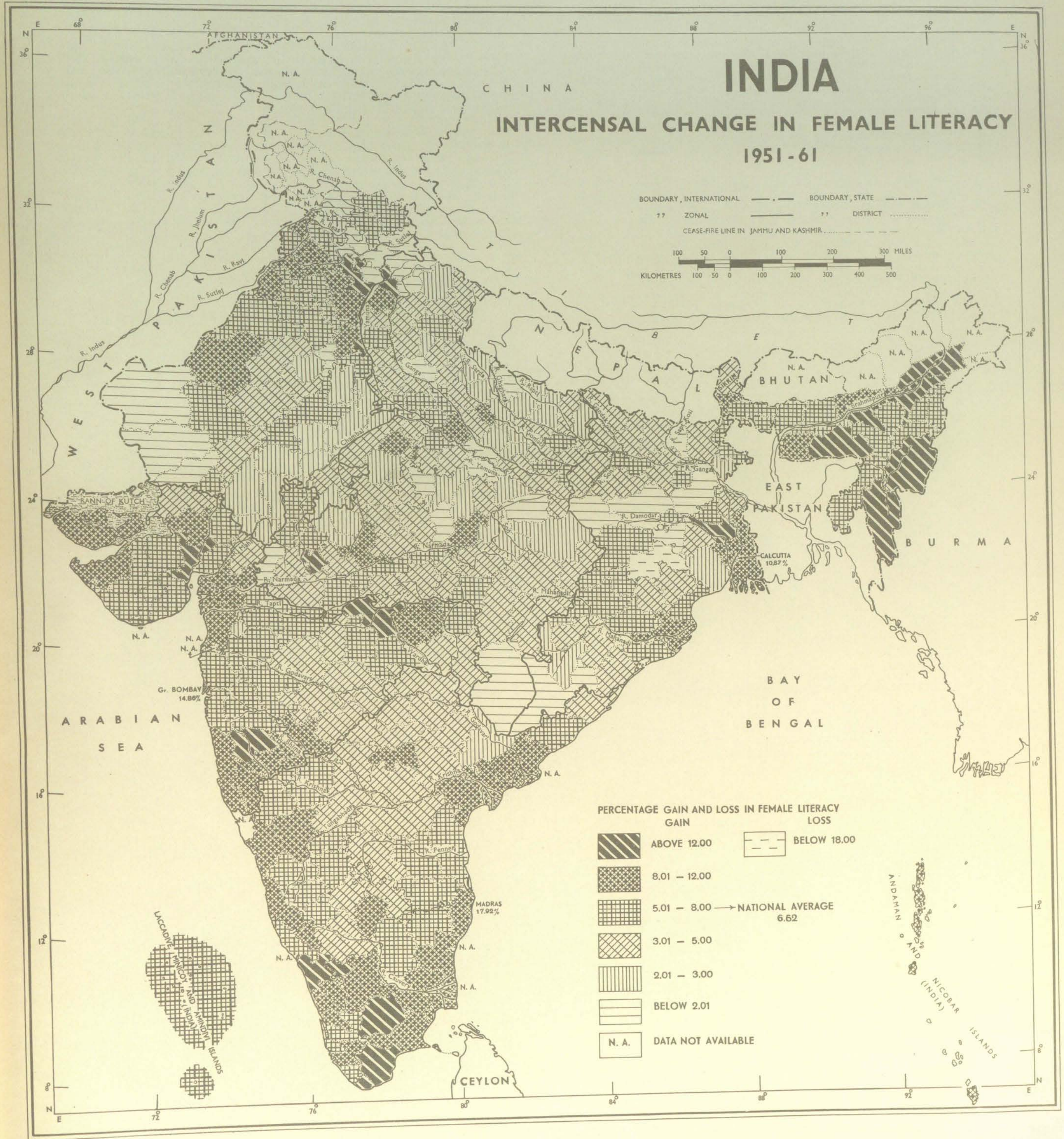
Only in 36 districts, intercensal change in female literacy varies from 2.01% to 3.00%. Except five districts (Dangs in Gujarat, Khammam in Andhra Pradesh, Kalahandi in Orissa, Malda and Midnapore in West Bengal), the rest comprise the States of Rajasthan (12), Uttar Pradesh (11) and Madhya Pradesh (8).

The female literacy rates remained more or less stationary (below 2.01%) in 23 districts which lie mainly in the underdeveloped parts of the country. The four compact areas are : 1) The arid districts in Rajasthan, 2) Dandakaranya region in Orissa and Madhya Pradesh, 3) Chotanagpur Plateau in Bihar and West Bengal and 4) western part of Kumaun Himalayas. The other districts where female literacy rates have hardly increased are Banda, Bahraich and Budaun in Uttar Pradesh; Tikamgarh, Damoh, Sidhi and Jhabua in Madhya Pradesh and Mahendragarh in Punjab State.

Source : 1 Data supplied by the Superintendents of Census Operations.
2 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.

INDIA

INTERCENSAL CHANGE IN FEMALE LITERACY 1951-61



MALE LITERACY IN RURAL AREAS, 1961

Purpose : This map shows the districtwise percentage of male literates to total male population excluding the age group 0—4 in rural areas in India in 1961.

Method : The percentage figures of male literates to total male population in rural areas excluding the age group 0—4 are calculated for all the districts and are shown in the map by choropleth method by grouping the data into six ranges—three above, one nearer to and two below the National Average (34·26%) as shown in the legend of the map.

Salient Features : India is overwhelmingly rural and more than 80% of its male population in the age group 5 and above lives in rural areas. The proportion of male literates in rural India is 34·26% and a large number of districts show the proportion of male literates below the National Average (34·26%).

A very high level of male literacy (above 50·00%) prevails in 28 districts which are distributed mainly in Peninsula and in the north-eastern region. The most conspicuous area of high literacy rate in southern Peninsula is Kerala State excluding Palghat district and the districts of Kanyakumari, Tirunelveli, Ramanathapuram and Thanjavur in Madras State. Mahe district of Pondicherry records the highest percentage of male literates (85·23%) followed by the districts of Alleppey (74·07%), Kottayam (72·44%), Quilon (67·88%) and Ernakulam (65·66%). The next big region showing a high level of male literacy lies in the north-eastern part of the country embracing the Union Territories of N.E.F.A. and Manipur and the districts of Sibsagar and Mizo Hills of Assam State. Other than these, a few districts in Mahanadi delta of Orissa, Bhagirathi delta of West Bengal, Gujarat Plain, Maharashtra and Karnataka Plateaus record a high level of male literacy.

The districts falling under the next high level of male literacy (42·51—50·00%) are usually contiguous with the areas showing a very high literacy rate. Other than these contiguous areas, there are a few scattered areas, such as,

Kumaun Hills of Uttar Pradesh, northern part of Maharashtra Plateau, the Union Territory of Delhi and Patna district of Bihar State where the male literacy rate falls under this range.

In all, 62 districts record male literacy under the range (35·01—42·50%). These districts occur more in the South than in the North. More than one-third of Maharashtra and about half of the districts of Mysore fall under this range of male literacy. The other worthmentioning States are Uttar Pradesh (8 districts), West Bengal, Madhya Pradesh and Punjab (5 districts each) and Andhra Pradesh and Bihar (4 districts each).

The male literacy under the range (27·51—35·00%) which is nearer to the National Average is recorded by a large number of districts which are more in the North than in the South. Except for the Rayalaseema region of Andhra Pradesh and a few districts of Madras and Mysore States in its contiguity, there is hardly any district in southern Peninsula which falls under this level of literacy. The Punjab Plain, southern and eastern parts of Ganga Plain and eastern part of Madhya Pradesh form one continuous belt showing a similar level of male literacy. The other areas are in the eastern hills and plateaus, Chotanagpur Plateau, northern hills of Orissa and in Saurashtra.

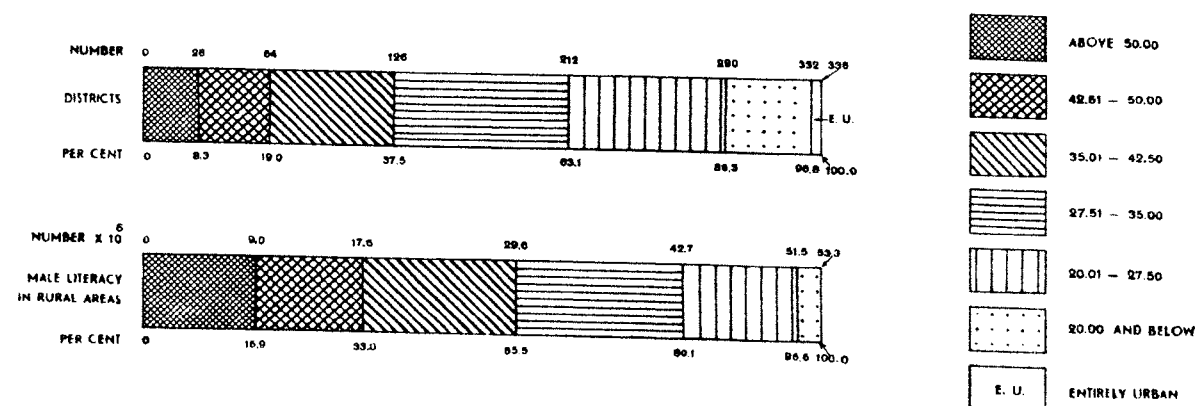
The male literacy in rural areas is low (20·01—27·50%) over a large part of Rajasthan State, the central part of Uttar Pradesh, Telangana Plateau of Andhra Pradesh, Chambal Valley and Malwa Plateau of Madhya Pradesh, northern part of Chotanagpur Plateau and Punjab Plains.

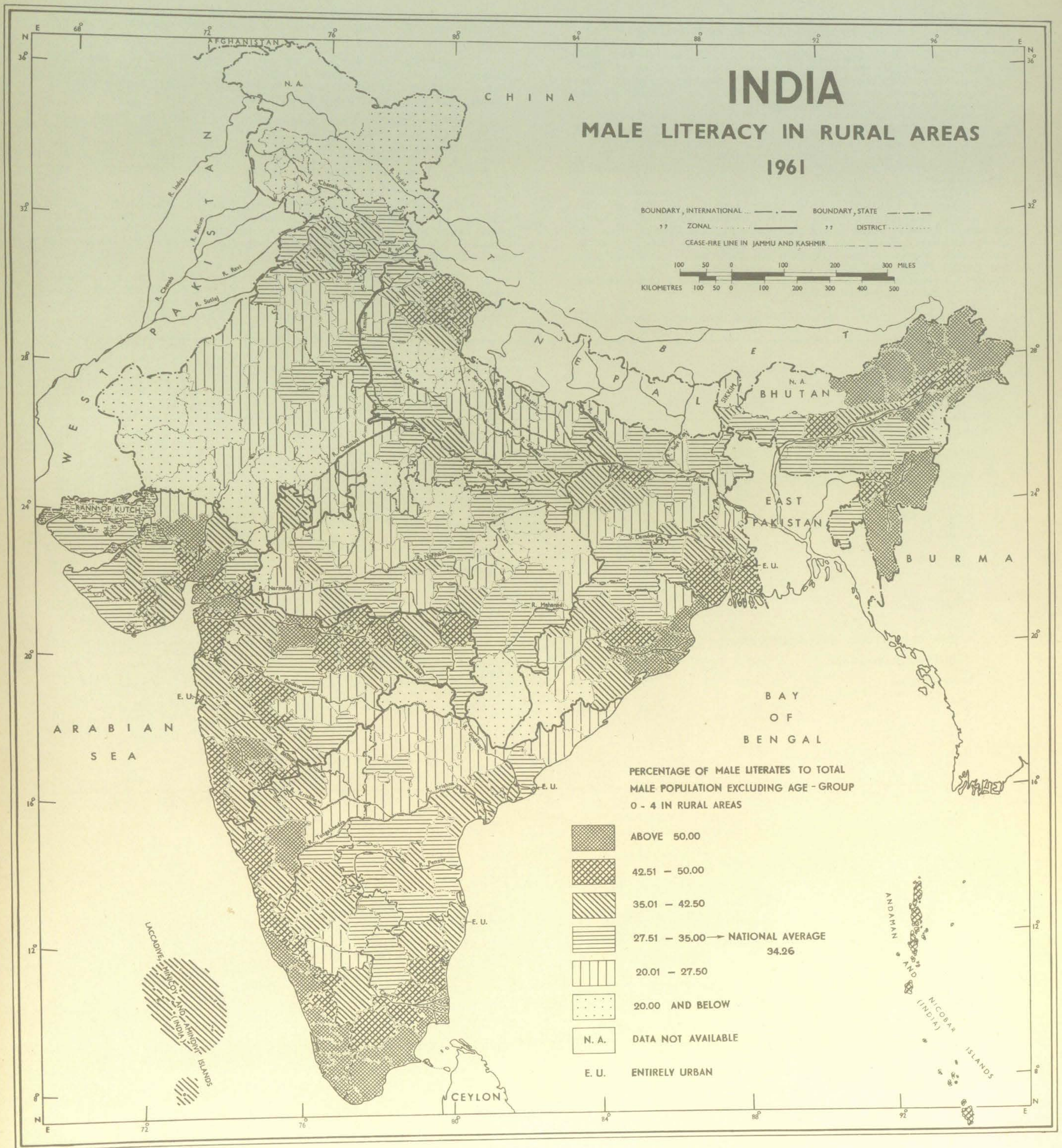
The literacy rate is the lowest (below 20·01%) in 42 districts which are distributed mainly in the central and north-western parts of the country. Other than Jammu district, the entire Jammu and Kashmir State, some southern districts of Rajasthan State, the Bundelkhand Plateau, Baghelkhand and Bastar Plateaus of Madhya Pradesh, Dandakaranya area of Orissa and Rohilkhand Plain of Uttar Pradesh fall under the lowest category of rural male literacy.

Sl. No.	State/Union Territory	Rural male population excluding age group 0—4 1961	Male literates in rural areas 1961	Percentage of male literates in rural areas to total rural male population excluding age group 0—4 1961
1	2	3	4	5
	INDIA*	155,675,954	53,338,431	34·26
	STATES			
1	Andhra Pradesh	12,876,688	3,757,794	29·18
2	Assam	4,848,418	2,012,734	41·51
3	Bihar	17,864,369	5,750,692	32·19
4	Gujarat	6,565,056	2,702,250	41·46
5	Jammu and Kashmir	1,350,480	203,475	15·07
6	Kerala	5,981,072	3,790,850	63·38
7	Madhya Pradesh	11,793,549	3,072,561	26·05
8	Madras	10,631,195	4,662,846	43·86
9	Maharashtra	11,990,191	4,769,405	39·78
10	Mysore	7,908,875	2,832,056	35·81
11	Orissa	7,011,573	2,688,695	38·35
12	Punjab	7,280,980	2,319,242	31·85
13	Rajasthan	7,441,256	1,617,713	21·74
14	Uttar Pradesh	28,548,968	7,932,045	27·78
15	West Bengal	11,468,348	4,462,329	38·91
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	26,251	11,444	43·59
2	Delhi	135,433	62,292	45·99
3	Himachal Pradesh	574,555	167,672	29·18
4	Laccadive, Minicoy and Amindivi Islands	10,185	4,273	41·95
5	Manipur	297,040	150,652	50·72
6	Tripura	448,428	141,538	31·56
7	Dadra and Nagar Haveli	24,514	4,342	17·71
8	Goa, Daman and Diu	220,654	89,897	40·74
9	Pondicherry	119,307	63,010	52·81
10	North-East Frontier Agency*	28,924	15,438	53·37
11	Nagaland	158,314	38,352	24·23
12	SIKKIM	71,331	14,834	20·80

* Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





MAP 161

MALE LITERACY IN URBAN AREAS, 1961
(PERCENTAGE OF MALE LITERATES TO TOTAL MALE
POPULATION EXCLUDING AGE GROUP 0—4
IN URBAN AREAS, 1961)

Purpose : This map shows the proportion of male literates to total male population excluding the age group 0—4 in urban areas in India in 1961.

Method : Districtwise proportions of male literates to total male population excluding the age group 0—4 in urban areas are calculated. These figures are shown in the map by choropleth method by grouping the data into six ranges—two above, one nearer to and three below the National Average (65.99%) as shown in the legend of the map.

Salient Features : According to 1961 Census, about 25 million males i.e., 65.99% of the country's total male population excluding the age group 0—4 in urban areas are literates. The literacy rate, however, varies between 30.34% in Anantnag district of Jammu & Kashmir and 84.47% in Almore district of Uttar Pradesh.

There are 51 districts in India having more than 72.00% of urban male population as literates. These form four distinct regions, viz., (i) southern part of Peninsular India comprising ten contiguous districts shared by Madras and Kerala States; (ii) Kumaun and Punjab Himalayas; (iii) north-eastern hills and plateaus and (iv) western part of Peninsula embracing western Maharashtra Plateau and Gujarat Plains. Other than these, there are a few districts with high male literacy scattered in the central part of the country, viz., Indore, Bastar, Mandla, Ranchi etc.

In the next range of 67.01—72.00% of urban male literacy fall 71

districts, which are found mainly in the west coast region, central plateaus, Gujarat Plains and its contiguous areas of Rajasthan State and northern Punjab Plains.

In all, 78 districts fall in the category of medium level of urban male literacy (62.01—67.00%) and these are found mainly in the Bengal Plain, Orissa Plateau, Kathiawar Peninsula, lower Brahmaputra Valley, Malwa Plateau, Chambal Valley of Rajasthan and Punjab Plains.

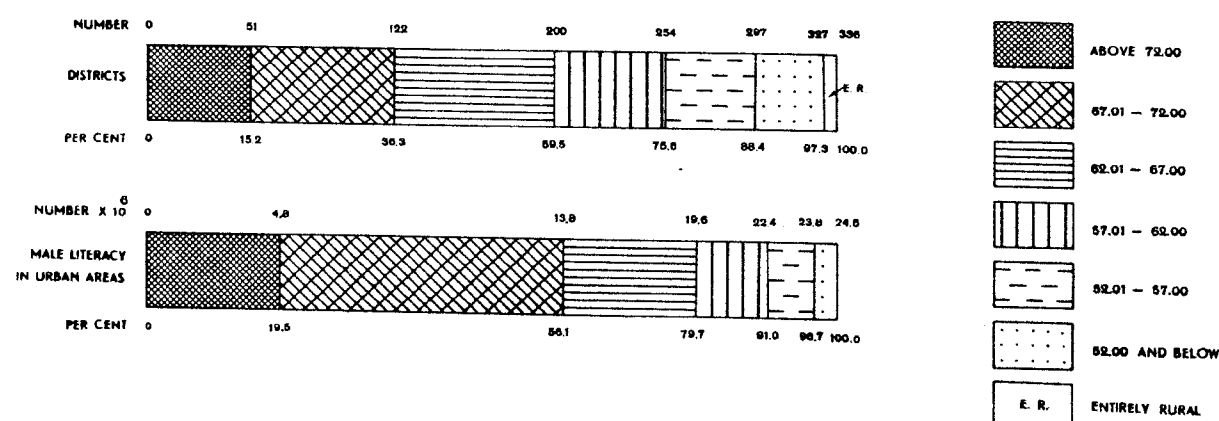
The percentages of urban male literates falling under the fourth range (57.01—62.00%) are recorded in 54 districts which are generally contiguous with the areas showing a medium literacy rate. Most of these districts are located in the northern part of the country. Some pockets with similar literacy rate are seen in Maharashtra, Mysore, Andhra Pradesh and Madras States also.

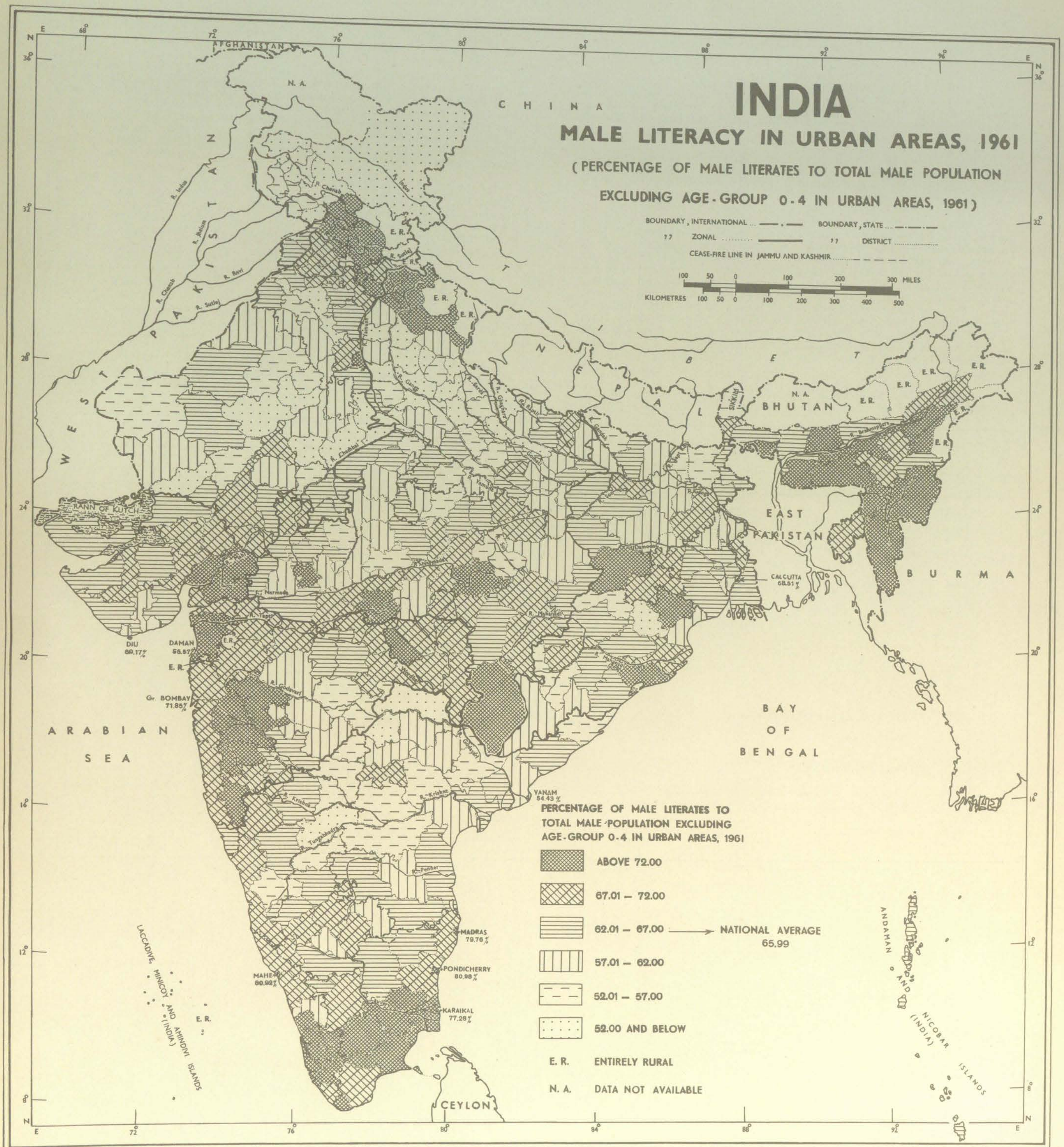
The proportions are low (52.01—57.00%) in 43 districts, most of which are again in the northern part of the country. In southern Peninsula, ten districts show a low level of male literacy in urban areas. They form one compact block in the interior part of the plateau shared by Mysore, Maharashtra and Andhra Pradesh States.

The lowest level of urban male literacy (52.00% and below) has been observed in 30 districts which are mostly in northern and north-western parts of the country. The largest number of districts under this range are in Uttar Pradesh (13) followed by Jammu and Kashmir and Rajasthan (6 each).

Sl. No.	State/Union Territory	Urban male population excluding age group 0—4 1961	Male literates in urban areas 1961	Percentage of male literates in urban areas to total urban male population excluding age group 0—4 1961
1	2	3	4	5
	INDIA	37,282,991	24,601,402	65.99
	STATES			
1	Andhra Pradesh	2,795,178	1,724,539	61.70
2	Assam	485,796	348,990	71.84
3	Bihar	1,886,201	1,200,275	63.63
4	Gujarat	2,409,201	1,671,123	69.36
5	Jammu and Kashmir	279,295	118,352	42.38
6	Kerala	1,102,121	805,415	73.08
7	Madhya Pradesh	2,132,030	1,408,893	66.08
8	Madras	3,969,443	2,869,477	72.29
9	Maharashtra	5,446,314	3,819,252	70.13
10	Mysore	2,382,864	1,520,372	63.80
11	Orissa	545,237	353,309	64.80
12	Punjab	1,945,161	1,271,935	65.39
13	Rajasthan	1,480,618	887,270	59.93
14	Uttar Pradesh	4,523,897	2,614,750	57.80
15	West Bengal	4,536,068	2,991,677	65.95
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	7,948	5,231	65.82
2	Delhi	1,150,255	842,509	73.25
3	Himachal Pradesh	32,626	23,467	71.93
4	Laccadive, Minicoy and Amindivi Islands		Entirely Rural	
5	Manipur	29,514	24,004	81.33
6	Tripura	47,412	33,522	70.70
7	Dadra and Nagar Haveli		Entirely Rural	
8	Goa, Daman and Diu	44,275	28,214	63.72
9	Pondicherry	37,678	29,374	77.96
10	North-East Frontier Agency		Entirely Rural	
11	Nagaland	10,408	7,565	72.68
12	SIKKIM	3,451	1,887	54.68

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





FEMALE LITERACY IN RURAL AREAS, 1961
(PERCENTAGE OF FEMALE LITERATES TO TOTAL FEMALE POPULATION
EXCLUDING AGE GROUP 0—4, IN RURAL AREAS, 1961)

Purpose : This map shows the proportions of female literates to total female population excluding age group 0—4 in rural areas in India in 1961.

Method : Districtwise proportions of female literates to total female population excluding age group 0—4 in rural areas are calculated. These figures are shown in the map by choropleth method by grouping the data in six ranges—one above, one nearer to and four below the National Average (10·13%) as shown in the index to the map.

Salient Features : The map reveals that the level of female literacy is high only in a small portion of the country. The literacy rate varies between 0·86% in Jaisalmer district of Rajasthan and 59·55% in Mahe district of the Union Territory of Pondicherry.

Out of 336 districts (including Sikkim), only 39 districts record the proportions of female literates in rural areas above 18·00% and most of these are coastal districts of Peninsular India. A continuous belt along the coast of southern peninsula from Tirunelveli district of Madras State to Ratnagiri district of Maharashtra State is significant in the country for high level of female literacy in rural areas. The other areas in southern part where comparatively larger number of rural females are literate, are Andhra coast and Gujarat plains. The next conspicuous region of high level of rural female literacy is in the north-east comprising the Union Territory of N.E.F.A.; Mizo Hills, United Khasi & Jaintia Hills, Sibsagar and Nowgong districts of Assam State and Mokokchung district of Nagaland. Some small pockets also show a high level of female literacy in the Lower Hooghly Basin, Maharashtra Plateau and Punjab Plains.

There are 64 districts where the female literacy ranges between 10·01% and 18·00%. These are distributed in Tamilnad area, Karnataka Plateau,

Maharashtra Plateau, Punjab Plains, Assam Valley, Manipur, Andhra and Orissa coasts and Bhagirathi delta of West Bengal.

A large area of the country (71 districts) shows the rural female literacy rates lying between 6·01% and 10·00%. The districts falling under this range form compact regions in Orissa Plateau and Lower Ganga Basin. The most significant area showing this literacy rate in southern peninsula is south-central part embracing four districts of Andhra Pradesh (Rayalaseema area), six districts of Mysore State and two districts of Madras State. Another area having literacy rate in this range can be delineated in the Ganga Plain embracing four districts of eastern Uttar Pradesh and eight districts of north Bihar plains.

68 districts exhibit female literacy rates between 4·01% and 6·00% in rural areas. They are more frequent in the north-western and central parts of the country. Ganga-Yamuna *doab* area, southern Punjab Plains and its contiguous area of Rajasthan form one continuous belt showing female literacy rate in this range. Another significant area showing a similar level of female literacy is in eastern part of Madhya Pradesh.

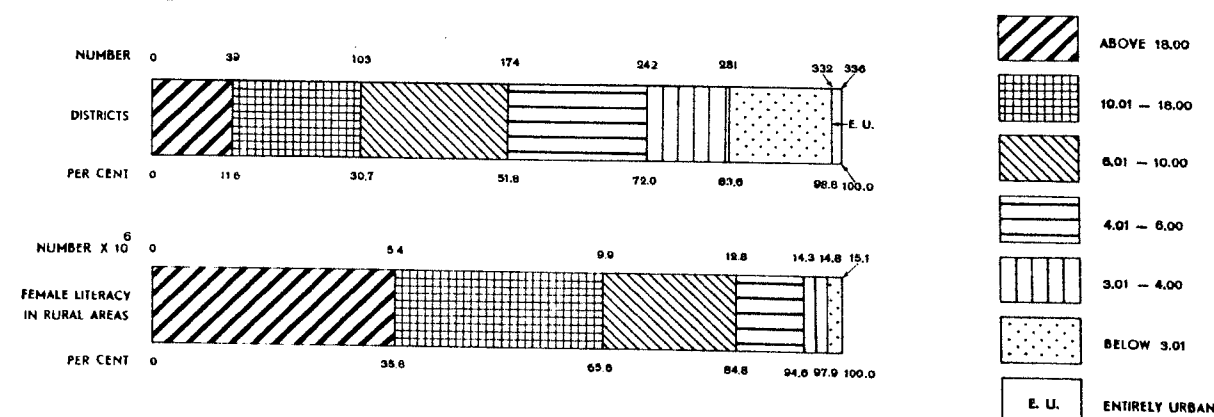
A low level of female literacy in rural areas (3·01—4·00%) is noticeable in 39 districts of the country which lie mostly in the northern part. Avadh plains and Rohilkhand plains in Uttar Pradesh, Chambal Valley and Malwa Plateau in Madhya Pradesh, Karnataka Plateau in Mysore and northern part of Chotanagpur Plateau in Bihar are the principal regions showing a low level of female literacy among rural population.

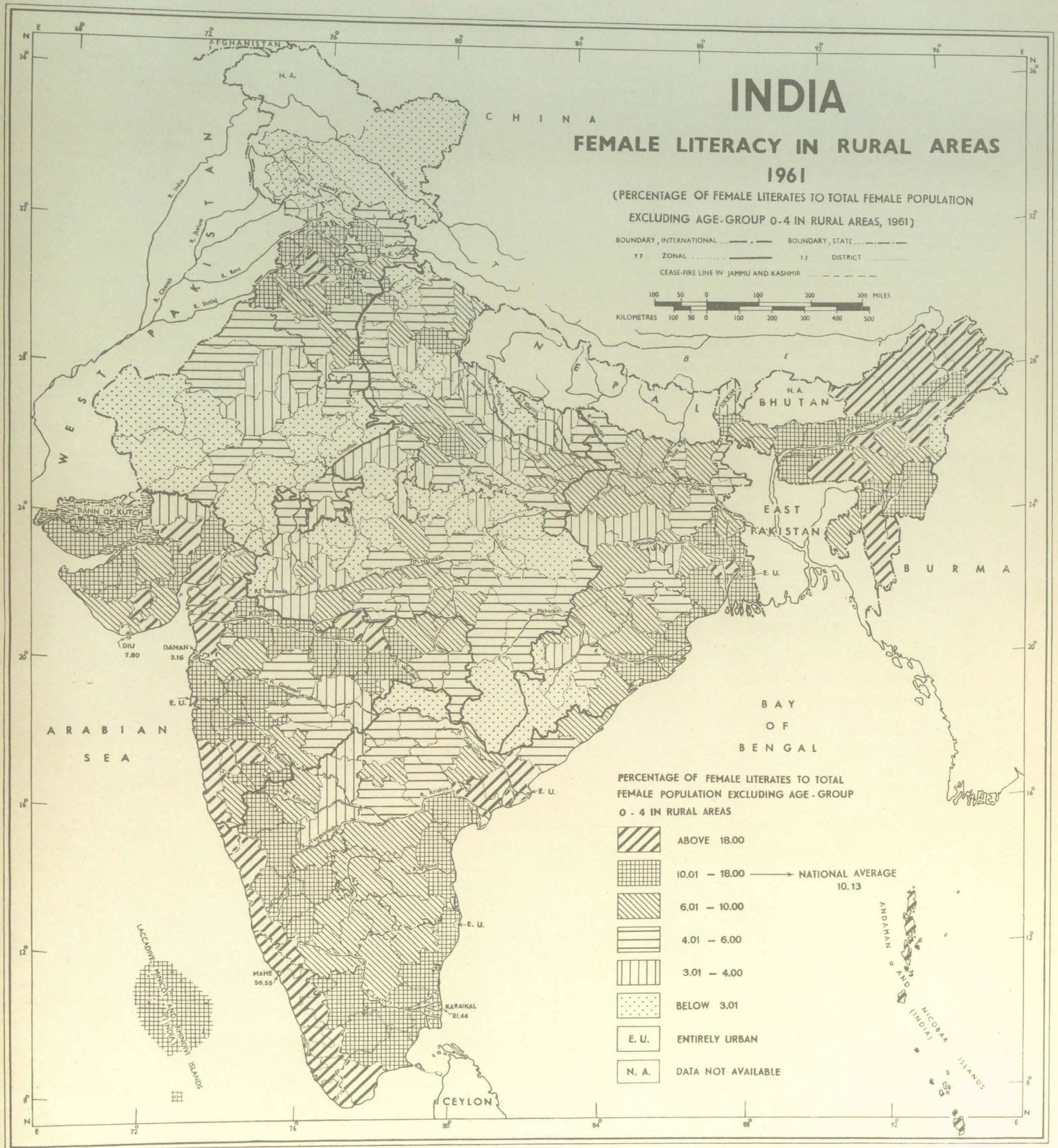
The level of female literacy in rural areas is very low (below 3·01%) in 51 districts. A major part of Jammu and Kashmir, western and eastern Rajasthan, northern Madhya Pradesh, Dandakaranya area and a few pockets in Uttar Pradesh are the areas which fall in this range.

Sl. No.	State/Union Territory	Rural female population excluding age group 0—4 1961	Female literates in rural areas 1961	Percentage of female literates in rural areas to total rural female population excluding age group 0—4 1961
1	2	3	4	5
INDIA*		149,045,017	15,104,003	10·13
STATES				
1	Andhra Pradesh	12,666,660	1,247,006	9·84
2	Assam	4,206,561	712,992	16·95
3	Bihar	18,066,546	1,106,816	6·13
4	Gujarat	6,249,114	987,837	15·81
5	Jammu and Kashmir	1,172,558	21,647	1·85
6	Kerala	6,196,711	2,725,216	43·98
7	Madhya Pradesh	11,363,188	458,335	4·03
8	Madras	10,665,650	1,430,653	13·41
9	Maharashtra	11,939,899	1,322,663	11·08
10	Mysore	7,660,373	829,728	10·83
11	Orissa	7,079,349	622,560	8·79
12	Punjab	6,322,126	659,003	10·42
13	Rajasthan	6,706,078	213,705	3·19
14	Uttar Pradesh	26,137,947	1,283,926	4·91
15	West Bengal	10,622,734	1,246,184	11·73
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	15,065	2,868	19·04
2	Delhi	112,454	12,894	11·47
3	Himachal Pradesh	531,298	28,719	5·41
4	Laccadive, Minicoy and Amindivi Islands	10,477	1,337	12·76
5	Manipur	302,952	52,246	17·25
6	Tripura	412,843	35,953	8·71
7	Dadra and Nagar Haveli	23,068	1,153	5·00
8	Goa, Daman and Diu	242,197	54,840	22·64
9	Pondicherry	119,679	24,737	20·67
10	North-East Frontier Agency*	6,593	1,586	24·06
11	Nagaland	148,849	17,014	11·43
12	SIKKIM	64,048	2,385	3·72

* Excludes population of that portion of N.E.F.A., where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.





FEMALE LITERACY IN URBAN AREAS, 1961
(PERCENTAGE OF FEMALE LITERATES TO TOTAL FEMALE
POPULATION EXCLUDING AGE GROUP 0—4
IN URBAN AREAS, 1961)

Purpose : This map shows the proportion of female literates to total female population excluding those in age group 0—4 in urban areas in India in 1961.

Method : For each district, the proportion of female literates to total female population excluding age group 0—4 in urban areas is calculated and the percentages thus obtained are grouped into six categories—two above, one nearer to and three below the National Average (40.46%) as shown in the legend to the map. The districts are hatched from dark to light shades according to these ranges.

Salient Features : The female population excluding age group 0—4 residing in urban areas of India is about 31 millions of which about 12.5 millions or 40.46% are literates. A glance at the map reveals that over a major part of the country, the proportions of female literates in urban areas are lower than the National Average (40.46%).

The highly urbanised districts, such as, metropolitan districts of Greater Bombay (56.46%), Madras (55.94%), Calcutta (53.95%) and the Union Territory of Delhi (56.00%) record a very high level of female literacy (more than 50%). There are 34 other districts where more than 50% of urban female population excluding age group 0—4 are literates. These districts lie in three distinct areas—i) Brahmaputra Valley and southern hill districts of Assam State; ii) north-western part of the Himalayas and its adjacent Punjab plains and iii) Malabar and Gujarat coasts.

The 46 districts which fall in the next category of urban female literacy (42.51—50.00%) are often contiguous with the areas showing a very high female literacy rate. They are found in Calcutta Industrial Region, North Bengal Plain, Gujarat Plain, Konkan coast, Kerala coast, Punjab Plain,

Chotanagpur Plateau, southern Karnataka plateau and in three pockets in Cauvery, Krishna-Godavari and Mahanadi deltas.

77 districts show a level of female literacy in urban areas in the range (35.01—42.50%) which is nearer to the National Average. More than two-thirds of these districts are in southern part of the country. The areas distinguished by this literacy level are Kutch and Kathiawar Peninsula, eastern Maharashtra Plateau, southern Madhya Pradesh, Karnataka Plateau, parts of Aravalli Hills Region, Tamilnad and parts of East Coast Region.

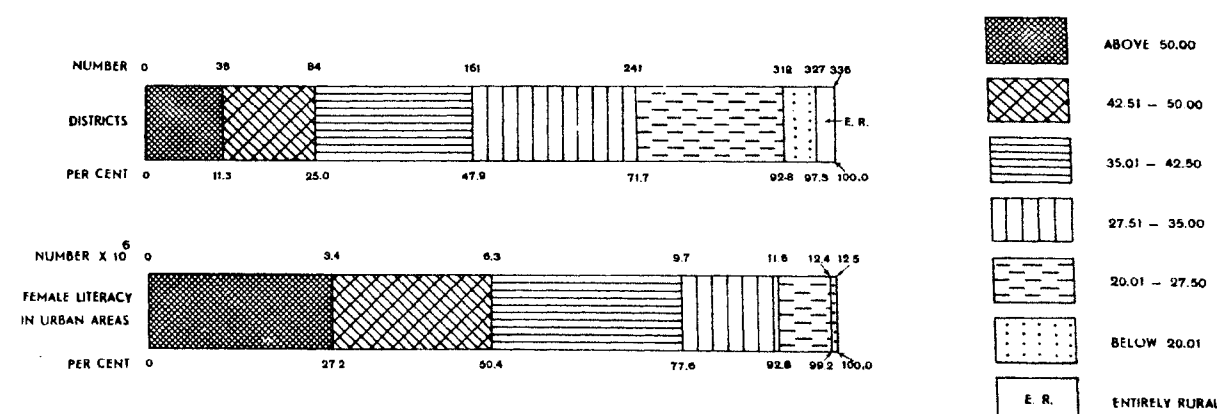
The proportions of female literates in urban areas are relatively low (27.51—35.00%) in many of the northern districts. In all, 80 districts fall under this range, out of which 29 districts lie in Uttar Pradesh, Punjab and Rajasthan States. In the north-eastern peninsular part, a region embracing 6 districts of eastern Madhya Pradesh, 5 districts of Orissa State, 5 districts of Bihar State and 2 districts of Maharashtra State shows a low level of literacy of urban female population. This is the least urbanised part of the country and the population size of most of the towns located in this region hardly exceeds 20,000. The level of female literacy is also low in some of the districts of Malwa Plateau, northern Maharashtra Plateau, Saurashtra and Bihar plain.

In the next range of 20.01—27.50% of female literacy in urban areas fall 71 districts. A compact area in Peninsular India embracing Marathwada area of Maharashtra, Telangana Plateau and north-eastern Karnataka Plateau showing level of female literacy in urban areas in this range is easily discernible.

The lowest range (below 20.01%) of female literates to total female population in urban areas is recorded in 15 districts. These are mainly confined to Kashmir Himalayas and western Rajasthan.

Sl. No.	State/Union Territory	Urban female population excluding age group 0—4 1961	Female literates in urban areas 1961	Percentage of female literates in urban areas to total urban female population excluding age group 0—4 1961
1	2	3	4	5
	INDIA	30,830,318	12,474,925	40.46
	STATES			
1	Andhra Pradesh	2,642,325	897,188	33.95
2	Assam	308,817	173,339	56.13
3	Bihar	1,480,459	490,062	33.10
4	Gujarat	2,138,849	922,046	43.11
5	Jammu and Kashmir	231,677	49,287	21.27
6	Kerala	1,096,651	597,739	54.51
7	Madhya Pradesh	1,788,217	605,073	33.84
8	Madras	3,810,896	1,617,640	42.45
9	Maharashtra	4,242,502	1,881,750	44.35
10	Mysore	2,148,038	808,429	37.64
11	Orissa	425,720	136,681	32.11
12	Punjab	1,545,823	667,216	43.16
13	Rajasthan	1,289,886	346,880	26.89
14	Uttar Pradesh	3,574,991	1,182,462	33.08
15	West Bengal	3,049,771	1,525,474	50.02
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	4,073	1,829	44.91
2	Delhi	865,435	484,603	56.00
3	Himachal Pradesh	22,880	11,806	51.60
4	Laccadive, Minicoy and Amindivi Islands	...	...	...
5	Manipur	28,891	10,374	35.91
6	Tripura	41,124	20,175	49.06
7	Dadra and Nagar Haveli	...	...	...
8	Goa, Daman and Diu	44,912	19,765	44.01
9	Pondicherry	39,863	21,028	52.75
10	North-East Frontier Agency	...	...	...
11	Nagaland	6,022	3,186	52.91
12	Sikkim	2,496	893	35.78

Source : Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.

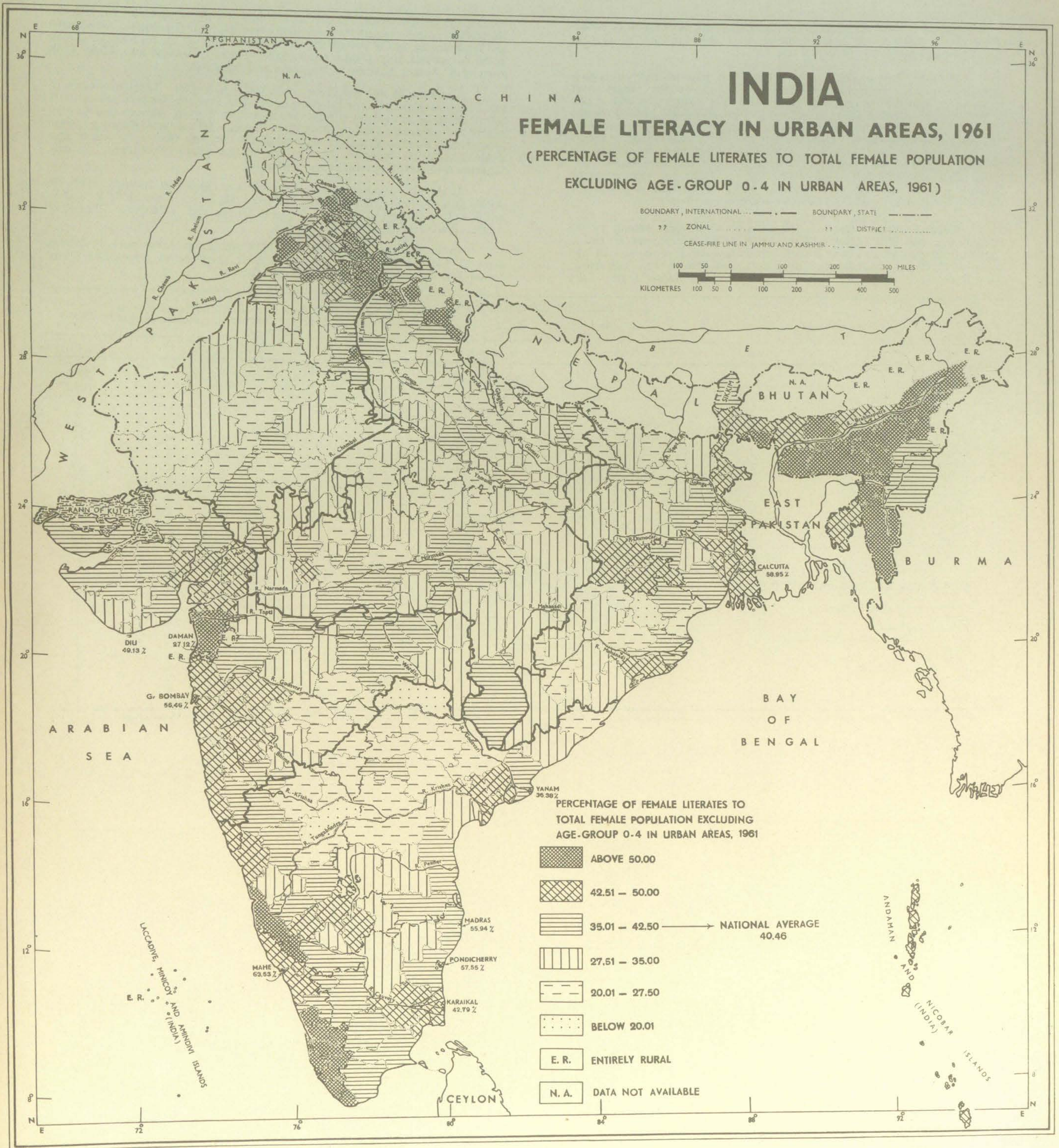
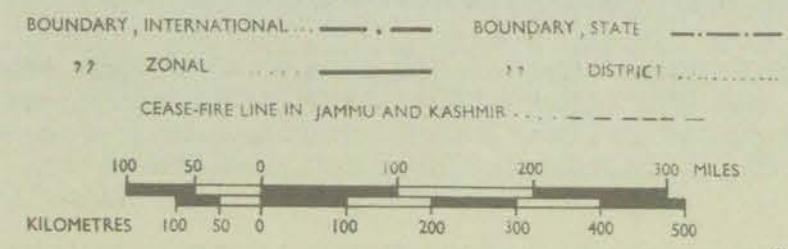


INDIA

FEMALE LITERACY IN URBAN AREAS, 1961

(PERCENTAGE OF FEMALE LITERATES TO TOTAL FEMALE POPULATION

EXCLUDING AGE-GROUP 0-4 IN URBAN AREAS, 1961)



MAP 164

EXCESS OF LITERATES IN RURAL AREAS PER 1,000 OF
POPULATION IN AGE GROUP 5—14 OVER LITERATES
PER 1,000 OF POPULATION IN
AGE GROUP 15—34, 1961

Purpose : This map depicts the regional variations of excess or deficit of literates per 1,000 of population in the age group 5—14 in rural areas over those in the age group 15—34 for the year 1961.

Method : Districtwise data are used for this map and these are represented by choropleth method. These data are grouped into five ranges—four on the excess side and one on the deficient side. The ranges showing excess (plus value) are—i) below 18; ii) 18—22; iii) 23—45 and iv) 46—180 and the one on the deficient side (minus value) is 1—212 literates per 1,000 of population. The districts showing excess values are hatched from light to deep shades according to values from low to high, while districts with deficient values are left blank. Data of five districts, viz., Coorg, Kurnool, Nagaur, Nanded and Nasik show neither deficient nor excess values. These are represented by figures 1 to 5 in the map. Abbreviations 'E.U.' and 'N.A.' are used for 'Entirely Urban Areas' and Data 'Not Available' respectively.

Salient Features : Out of 336 districts, 45 districts belong to the highest range (46—180). Madras State ranks first where seven out of twelve districts (excluding Madras being entirely urban) have excess of literates in age group 5—14. Five out of these seven districts (Coimbatore, Salem, South Arcot, Tiruchirappalli and Madurai) lie in the industrial belt of Madras State. Such

high figures are also noticed in the hill districts of Punjab (3); Uttar Pradesh (2); Himachal Pradesh (3) and the remaining three districts (Ludhiana, Gurdaspur and Hoshiarpur) in the Punjab Plains. Another area of excess literates is seen in the Purnachala hilly region embracing Nowgong, Sibsagar and Mizo Hills districts of Assam; Kohima in Nagaland and Manipur.

There are 46 districts in the next range (23—45). These are found in the Thanjavur delta (1), coastal plain of Andhra Pradesh (Visakhapatnam and Srikakulam), Terai districts of Uttar Pradesh (Pithoragarh, Almora and Kheri), mining and industrial districts of Madhya Pradesh (Durg and Raipur), Bihar (Singhbhum, Ranchi, Shahabad and Palamau), Mysore (Kolar, Tumkur and Bijapur) and canal irrigated parts of the Punjab Plain (Ferozepur, Patiala, Sangrur, Amritsar, Kapurthala and Ambala).

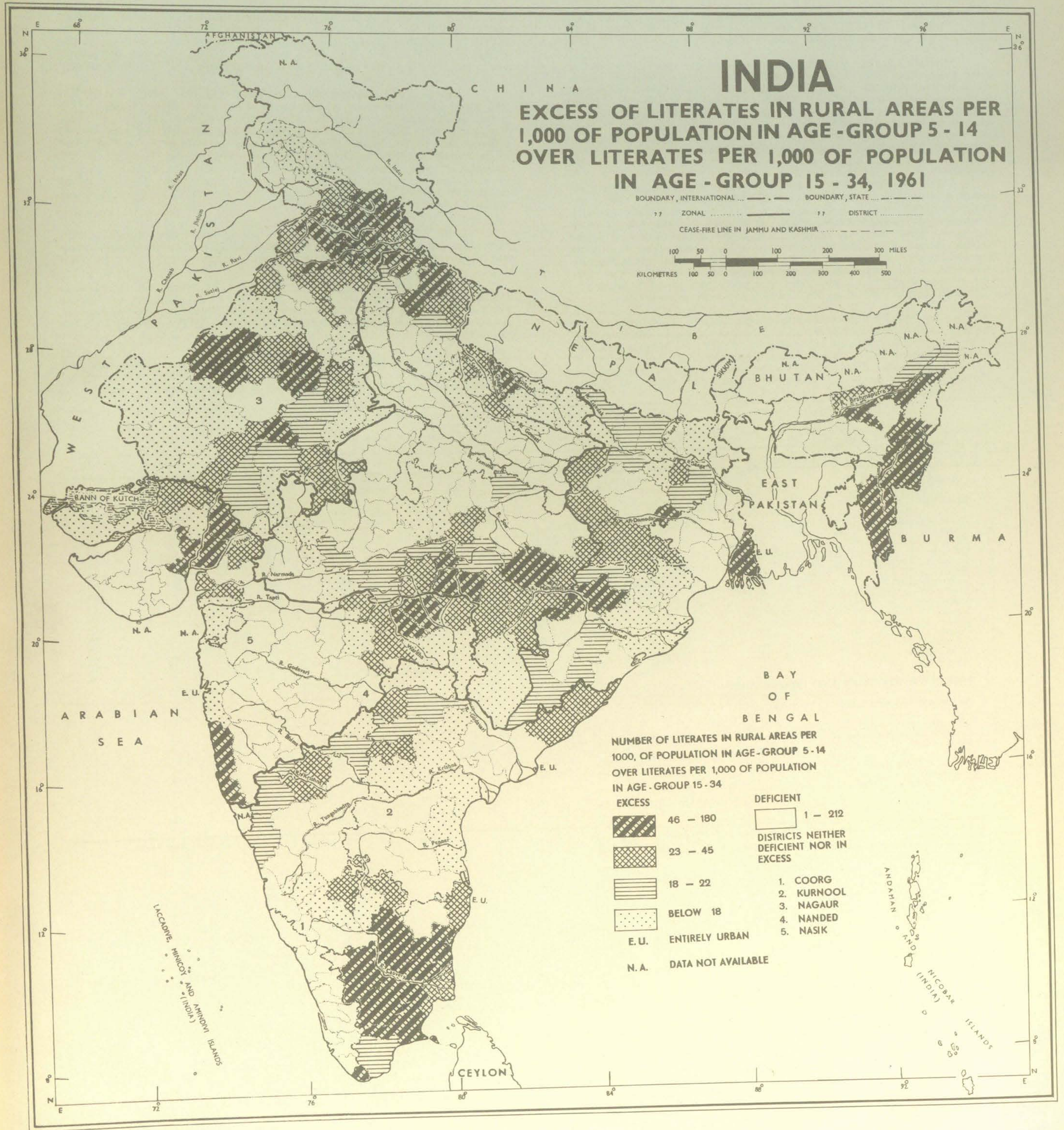
In the next two ranges (18—22 and below 18) fall 91 districts which lie mostly in north Bihar Plain, Gomati Sarjupar & Rapti Plain in U.P., south-east & west of Rajasthan, hilly and coastal Orissa and Telangana Plateau of Andhra Pradesh.

In the deficient range, i.e., 1—212 literates per 1,000 persons fall as many as 141 districts. Column 7 of the table given below shows the State/Union Territory wise distribution of these districts.

Sl. No.	State/Union Territory		Number of districts showing excess values				Number of districts with deficient (—) value 1—212	Number of districts neither deficient nor excess	Number of districts entirely urban	Total
			46—180	23—45	18—22	below 18				
1	2		3	4	5	6	7	8	9	10
	INDIA		45	46	28	63	141	5	4	336*
	STATES									
1	Andhra Pradesh	...	—	4	2	6	7	1	—	20
2	Assam	...	3	1	1	—	6	—	—	11
3	Bihar	...	1	5	5	3	3	—	—	17
4	Gujarat	...	3	3	—	3	8	—	—	17
5	Jammu and Kashmir	...	—	—	—	4	5	—	—	9
6	Kerala	...	—	—	—	—	9	—	—	9
7	Madhya Pradesh	...	3	5	6	7	22	—	—	43
8	Madras	...	7	2	1	—	2	—	1	13
9	Maharashtra	...	3	3	—	3	14	2	1	26
10	Mysore	...	—	3	3	5	7	1	—	19
11	Orissa	...	1	—	3	5	4	—	—	13
12	Punjab	...	6	6	—	3	4	—	—	19
13	Rajasthan	...	4	7	4	9	1	1	—	26
14	Uttar Pradesh	...	4	4	2	15	29	—	—	54
15	West Bengal	...	1	—	—	—	14	—	1	16
	UNION TERRITORIES AND OTHER AREAS									
1	Andaman and Nicobar Islands	...	—	—	—	—	1	—	—	1
2	Delhi	...	1	—	—	—	—	—	—	1
3	Himachal Pradesh	...	3	3	—	—	—	—	—	6
4	Laccadive, Minicoy and Amindivi Islands	...	—	—	—	—	1	—	—	1
5	Manipur	...	1	—	—	—	—	—	—	1
6	Tripura	...	—	—	—	—	1	—	—	1
7	Dadra and Nagar Haveli	...	—	—	1	—	—	—	—	1
8	Pondicherry	...	3	—	—	—	—	—	1	4
9	Nagaland	...	1	—	—	—	2	—	—	3
10	SIKKIM	...	—	—	—	—	1	—	—	1

* Includes 3 districts of Goa, Daman and Diu and N.E.F.A., for which data are not available.

Source : Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.



MAP 165

EXCESS OF LITERATES IN URBAN AREAS PER 1,000 OF
POPULATION IN AGE GROUP 5—14 OVER LITERATES
PER 1,000 OF POPULATION IN
AGE GROUP 15—34, 1961

Purpose : This map illustrates the regional variation of excess or deficit of literates per 1,000 of population in age group 5—14 in urban areas over literates in age group 15—34 in India in 1961.

Method : The cartographic methods applied are the same as in the previous map (Map 164). There are two broad categories of indices : excess (plus value) and deficient (minus value). Four distinct shades have been selected to show excess literates in ascending orders—below 20, 20—36, 37—73 and 74—281. The districts showing deficient values (1—94) are left blank. There are altogether nine entirely rural districts marked by abbreviation 'E.R.'. Data show neither excess nor deficient of literates in the districts of Barmer, Hyderabad and Jhalawar. They are represented by figures 1, 2 and 3 in the map.

Salient Features : The map reveals the lopsided distribution of juvenile literates over the literates in age group 15—34 in urban areas. One of the main characteristic features is that about 54.2% of the total districts fall under the category of deficient juvenile literacy. In all, there are 182 districts under this range. These areas are mostly found in the Ganga Valley of Uttar Pradesh; Punjab plains and its adjacent districts in Rajasthan; Kathiawar Peninsula; most of the districts in Maharashtra; Kerala; Telangana Plateau; Malwa Plateau; Chambal Valley and northern districts of Madras. The deficient juvenile literacy rate in such areas is a good indicator of imbalance in educational drive at the primary and middle school levels in the country.

Of the total 139 districts showing excess literates, 35 districts exhibit very high proportion of juvenile literates. The areas of excess concentrations (74—281) are in Dandakaranya region, eastern districts of Madhya Pradesh, Upper Brahmaputra Valley, Cachar, United Khasi and Jaintia Hills district in Assam, Ladakh district in Jammu and Kashmir, hill districts of Uttar Pradesh; Union Territory of Manipur, Pondicherry and Sikkim, Simla and Patiala

districts of Punjab, Champaran and Dhanbad districts of Bihar and four districts of Orissa. Besides these areas, the metropolitan districts of Calcutta, Bombay and Madras also fall under this range. The excess of literates in age group 5—14 in these areas is probably due to low density of urban population and comparatively greater educational facilities (Primary and Middle Schools).

Only 35 districts belong to the next range (37—73), which account for 25% of the total 139 districts showing excess of literates. Eight districts lie in a belt in Sabarmati Valley and Rajasthan in the West, five districts in Bihar, four in the industrial districts of West Bengal and the rest are scattered in different parts of the country. Excess literates in the same group are observed in the Union Territories of Delhi and Andaman and Nicobar Islands. A few coastal districts (Ratnagiri, Thanjavur and Nellore) also exhibit excess of juvenile literates in urban areas over the young population. The low urban population coupled with literacy drive in the Second Five Year Plan has, perhaps, inflated their juvenile literacy rates in these areas.

In all, 36 districts show the juvenile literates in the low range (20—36). Concentrations are noticed in seven districts of Madhya Pradesh, four in Tamilnad plateau and five districts in the Karnataka Plateau.

Districts falling in the category below 20 are found in Madhya Pradesh (7), Mysore (6) and Punjab (5). Three districts each in Andhra Pradesh and Bihar, two each in Maharashtra and Rajasthan and one each in Assam, Gujarat, Jammu and Kashmir, West Bengal and Pondicherry also fall in this range.

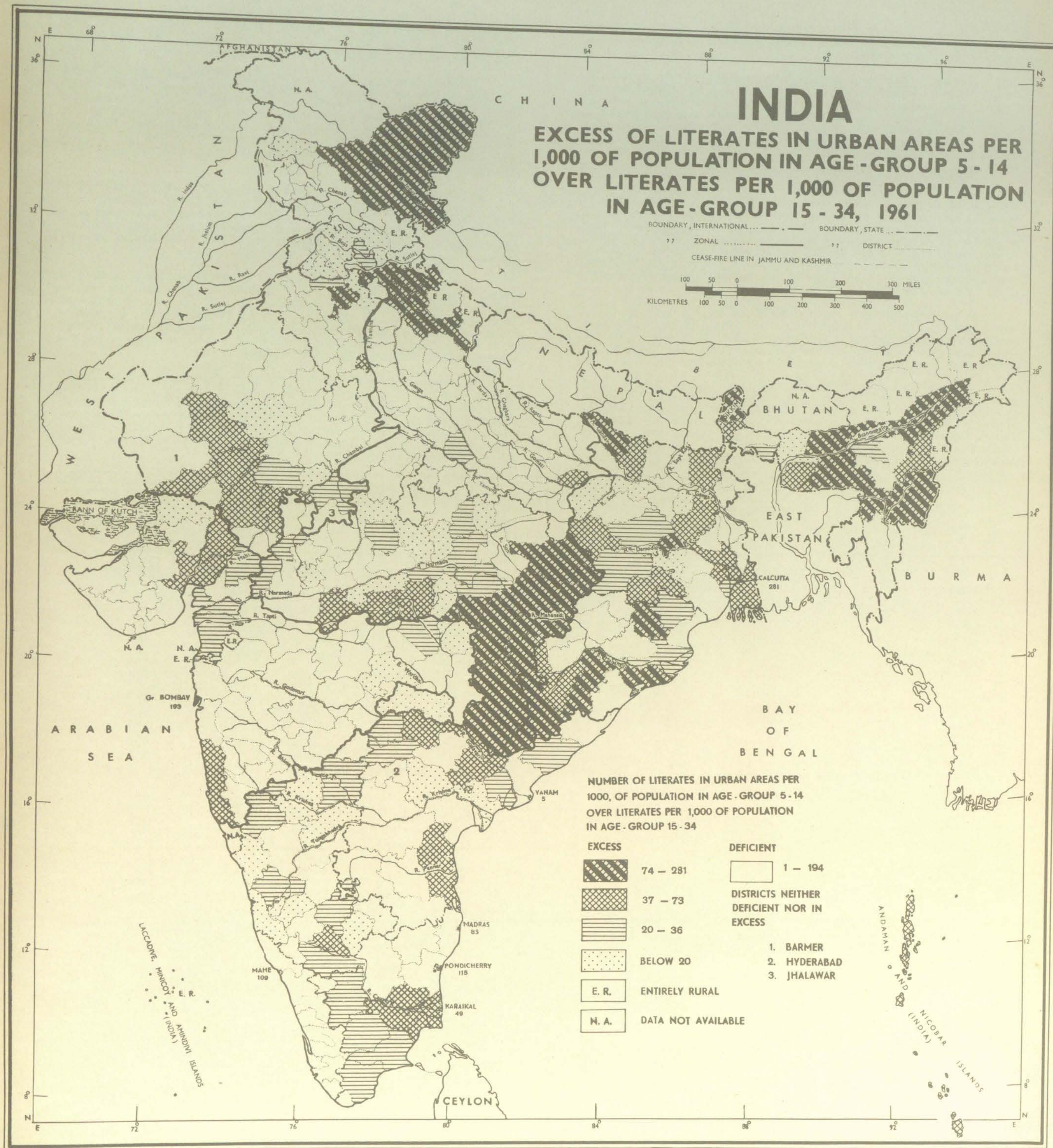
There are only three districts, viz., Barmer, Jhalawar (Rajasthan) and Hyderabad (Andhra Pradesh) which show neither deficient nor excess of juvenile literates in urban areas over literates in the age group 15—34.

Sl. No.	State/Union Territory	Number of districts showing excess values				Number of districts with deficient (—) value 1—94	Number of districts entirely rural	Total
		74—281	37—73	20—36	below 20			
1	2	3	4	5	6	7	8	9
	INDIA*	35	35	36	33	182	9	336†
	STATES							
1	Andhra Pradesh	—	3	4	3	9	—	20*
2	Assam	6	1	1	1	2	—	11
3	Bihar	2	5	2	3	5	—	17
4	Gujarat	—	3	3	1	9	1	17
5	Jammu and Kashmir	1	—	—	1	7	—	9
6	Kerala	—	—	—	—	9	—	9
7	Madhya Pradesh	7	3	7	7	19	—	43
8	Madras	1	2	4	—	6	—	13
9	Maharashtra	1	1	1	2	21	—	26
10	Mysore	—	1	5	6	7	—	19
11	Orissa	4	1	2	—	6	—	13
12	Punjab	2	—	1	5	10	1	19
13	Rajasthan	—	5	2	2	15	—	26*
14	Uttar Pradesh	5	1	1	—	45	2	54
15	West Bengal	1	4	2	1	8	—	16
	UNION TERRITORIES AND OTHER AREAS							
1	Andaman and Nicobar Islands	—	1	—	—	—	—	1
2	Delhi	—	1	—	—	—	—	1
3	Himachal Pradesh	1	—	1	—	3	1	6
4	Laccadive, Minicoy and Amindivi Islands	—	—	—	—	—	1	1
5	Manipur	1	—	—	—	—	—	1
6	Tripura	—	—	—	—	1	—	1
7	Dadra and Nagar Haveli	—	—	—	—	—	1	1
8	Pondicherry	2	1	—	1	—	—	4
9	North-East Frontier Agency	—	—	—	—	—	1	1
10	Nagaland	—	2	—	—	—	1	3
11	SIKKIM	1	—	—	—	—	—	1

* The districts of Barmer and Jhalawar in Rajasthan and Hyderabad in Andhra Pradesh are neither deficient nor excess.

† Also includes 3 districts of the Union Territory of Goa, Daman and Diu for which data are not available.

Source : Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.



PRIMARY SCHOOL ENROLMENT, 1961
(PROPORTION OF CHILDREN OF AGE GROUP 5—14 AT THE
LEVEL OF PRIMARY EDUCATION)

Purpose : The map depicts the proportion of children attending primary schools to the total number of children in the age group 5—14 in each district of the country in 1961.

Method : The proportions of children attending primary schools to the total number of children in the age group 5—14 for all the districts have been classified into six ranges—two above, one nearer to and three below the National Average (36.15%). These six ranges are shown by different types of hatchings as shown in the legend to the map and the districts are then shaded accordingly. For this map, primary school enrolment includes the students of primary and middle schools. Data are not available for certain areas for which the abbreviation 'N.A.' has been used.

Salient Features : Out of the total 113.76 million children excluding the Union Territories of Dadra and Nagar Haveli; Goa, Daman and Diu; N.E.F.A. and Sikkim in the age group 5—14 for which primary school enrolment figures are not available, only 41.1 million children or 36.15% were enrolled in the primary and middle schools in the country. The proportion of primary and middle schools students is expected to be high in the region with a high level of socio-economic development. In some of the backward areas also high proportions are observed but these are largely due to low density of population.

A very high proportion (above 60.0%) of children in the age group 5—14 receive primary and middle school education in Madras city (65.7%), the districts of Kanyakumari (67.0%) and Tirunelveli (63.7%) of Madras State; the entire Kerala State except the district of Kozhikode; Greater Bombay in Maharashtra (69.5%) and the Union Territory of Manipur (65.4%).

The next range (40.1—60.0%) of high proportion of enrolment at the level of primary and middle schools comprises five distinct areas—(i) a large compact area comprising seventeen districts in Maharashtra and eight in Gujarat; (ii) a large area in the southern Peninsula embracing the Tamilnad Plateau and coastal districts of Andhra Pradesh and Madras State; (iii) the compact area embracing four districts (Nadia, Hooghly, Howrah and Midnapore) of West Bengal Plain and two coastal districts (Balasore and

Cuttack) of Orissa; (iv) the area lying in the north Punjab Plain comprising the districts of Ludhiana, Jullundur, Kapurthala, Gurdaspur and Hoshiarpur and (v) five districts of the Brahmaputra Valley in Assam. The metropolitan cities of Calcutta, Delhi, Hyderabad and Bangalore also fall in this range.

In the medium range 30.1% to 40.0%, the children of age group 5—14 enrolled in the primary and middle schools fall in the major parts of Karnataka Plateau and Rayalaseema Region; the southern districts of Madhya Pradesh; the Chotanagpur plateau and the Ganga Valley in Bihar and contiguous part of West Bengal; the major parts of Assam; the hill districts of Punjab, Himachal Pradesh and Uttar Pradesh; three districts in the Chambal Valley; six districts of Gujarat; littoral parts of Andhra Pradesh and Orissa and two districts of Rajasthan.

The areas showing relatively low percentages (25.1—30.0%) of children of age group 5—14 at the level of primary and middle school education comprise 66 districts which are generally in the forested hills and plateaus of Jammu & Kashmir, Madhya Pradesh and the south-eastern part of Maharashtra. The over crowded northern plain also shows a low level of primary and middle schools enrolment.

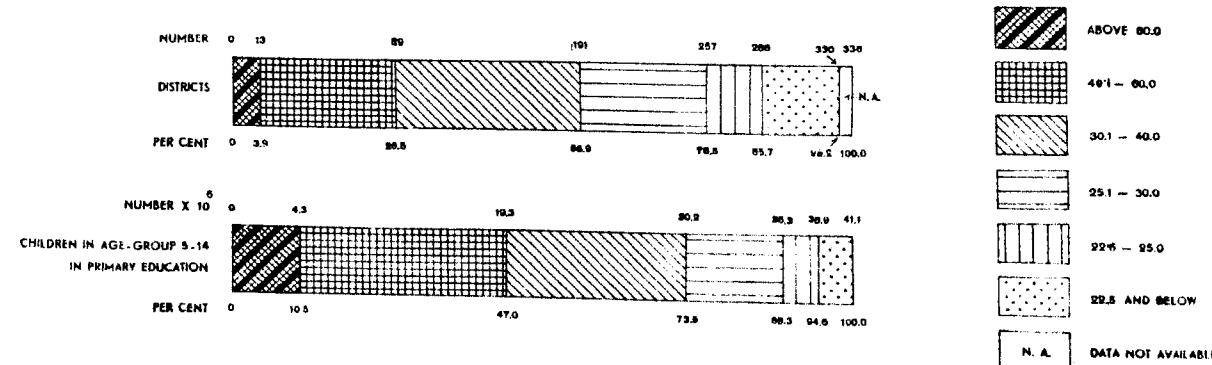
The areas which show a further fall in proportion (22.6—25.0%) of children in age group 5—14 in the primary and middle schools lie more in the northern part than in southern part of the country. The districts lying in the plains of Uttar Pradesh (14), Bihar (1) and West Bengal (1); five districts of Rajasthan and four districts of Madhya Pradesh fall under this range. There are also a few districts of low level of primary and middle schools enrolment—Maharashtra (3), Telangana Plateau (2) and Punjab (2).

The areas showing the lowest level of primary and middle schools enrolment are concentrated in northern part of the Karnataka Plateau (3 districts) and its contiguous area in Telangana Plateau (6 districts); Dandakaranya Region (3 districts); Uttar Pradesh (10 districts); Rajasthan desert (3 districts), eastern Rajasthan (7 districts) and six scattered districts in Madhya Pradesh excluding Bastar in Dandakaranya Region; Puri district of Orissa, Hissar district of Punjab and Coorg district of Mysore.

Sl. No.	State/Union Territory	Population in age group 5—14 1961	Primary and middle schools enrolment of children 1961	Proportion of primary and middle schools enrolment of children to total population in age group 5—14 1961
1	2	3	4	5
	INDIA*	113,980,144	41,129,241	36.2
	STATES			
1	Andhra Pradesh	9,224,996	3,383,940	36.7
2	Assam	3,298,186	1,342,703	40.7
3	Bihar	12,495,293	3,719,465	29.8
4	Gujarat	5,575,323	2,443,601	43.8
5	Jammu and Kashmir	919,454	273,065	29.7
6	Kerala	4,678,209	3,086,152	66.0
7	Madhya Pradesh	7,913,169	2,327,684	29.4
8	Madras	8,057,402	4,024,334	49.9
9	Maharashtra	10,142,716	4,696,804	46.3
10	Mysore	6,452,716	2,032,802	31.6
11	Orissa	4,369,236	1,420,779	32.5
12	Punjab	5,630,204	1,918,181	34.1
13	Rajasthan	5,354,581	1,322,022	24.7
14	Uttar Pradesh	18,889,772	4,900,608	25.9
15	West Bengal	9,041,214	3,409,641	37.7
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	12,839	4,916	37.8
2	Delhi	681,096	398,495	58.5
3	Himachal Pradesh	324,627	103,860	32.0
4	Laccadive, Minicoy and Amindivi Islands	6,414	3,682	57.4
5	Manipur	214,725	140,476	65.4
6	Tripura	297,336	92,153	31.0
7	Dadra and Nagar Haveli	14,935	Not Available	...
8	Goa, Daman and Diu	158,823	Not Available	...
9	Pondicherry	82,746	38,355	46.4
10	North-East Frontier Agency†	3,635	Not Available	...
11	Nagaland	97,238	45,523	46.8
12	Sikkim	43,259	Not Available	...

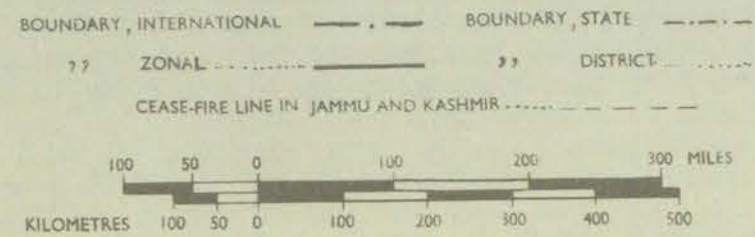
* National Average has been calculated after excluding the figures relating to Dadra and Nagar Haveli; Goa, Daman and Diu; N.E.F.A. and Sikkim for which data relating to the primary and middle schools enrolment of children are not available.
† Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.

Source : 1 Census of India, 1961, Vol. 1, India, Part II-C(i)—Social and Cultural Tables.
2 Education in States, 1960-61, State Education Commission.
3 Ministry of Education, New Delhi.

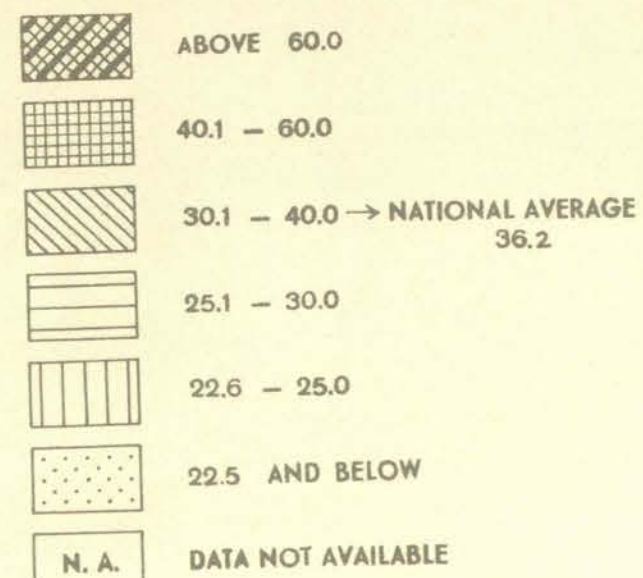


INDIA

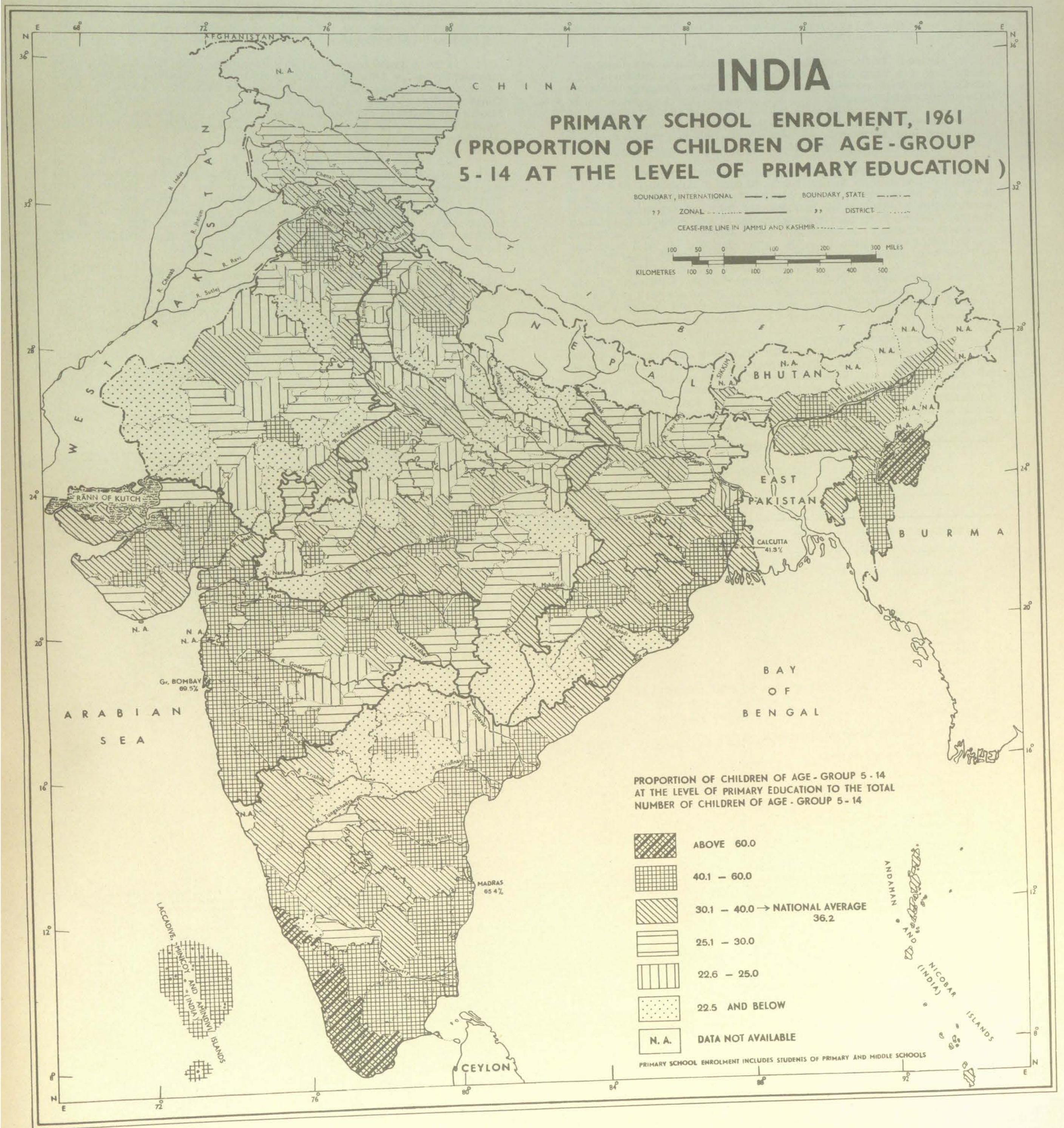
PRIMARY SCHOOL ENROLMENT, 1961 (PROPORTION OF CHILDREN OF AGE-GROUP 5-14 AT THE LEVEL OF PRIMARY EDUCATION)



PROPORTION OF CHILDREN OF AGE - GROUP 5 - 14
 AT THE LEVEL OF PRIMARY EDUCATION TO THE TOTAL
 NUMBER OF CHILDREN OF AGE - GROUP 5 - 14



PRIMARY SCHOOL ENROLMENT INCLUDES STUDENTS OF PRIMARY AND MIDDLE SCHOOLS



PRIMARY SCHOOL ENROLMENT OF BOYS, 1961
(PROPORTION OF BOYS IN AGE GROUP 5—14 AT THE
LEVEL OF PRIMARY EDUCATION)

Purpose : This map intends to show the percentage enrolment of boys in the age group 5—14 at the level of primary education for each of the districts in the country in 1961.

Method : The percentage data have been classified into six ranges—three above, one nearer to and two below the National Average (47·8%). Hatchings of different intensities are selected for these groupings which are shown in the legend of the map.

Salient Features : According to 1961 Census, there are nearly 59 million boys in the age group 5—14. Out of these, only 28·3 million or 47·8% are enrolled at the level of primary education.

High proportions (above 64·0%) of enrolment of boys in primary schools are observed in 29 districts in different parts of the country, of which 21 lie in three States, i.e., Kerala (8), Madras (6) and Maharashtra (7). It is worth mentioning that next to Manipur, the district of Ernakulam (86·5%) in Kerala State has by far the highest percentage of boys going to the primary schools in the country followed by Greater Bombay (74·7%) and Jalgaon (66·8%) districts of Maharashtra. The other eight districts with more than 64·0% of boys enrolled in the primary schools are—Ahmedabad (64·7%) and Mehsana (64·7%) districts of Gujarat; Garhwal district (64·3%) of Uttar Pradesh; Indore district (65·0%) of Madhya Pradesh; Gurdaspur district (75·5%) of Punjab; Mizo Hills district (66·4%) of Assam and the Union Territories of Manipur (86·8%) and Laccadive, Minicoy and Amindivi Islands (71·1%).

The percentage of primary school enrolment in the next range (56·01—64·0%) will be found in 48 districts which are mostly scattered all over the country. The State of Maharashtra has the largest share of such districts (9) followed by Madras and Gujarat with 5 districts each, Uttar Pradesh (4), 3 districts each in Madhya Pradesh and Punjab, 2 districts each in Assam, Andhra Pradesh, West Bengal, Jammu and Kashmir and 1 district each in Orissa, Rajasthan and Kerala States. The remaining districts lie in the Union Territories of Pondicherry (4), Nagaland (3) and Delhi (1).

As many as 54 districts fall in the range 48·1—56·0% of the boys enrolled in primary schools. The four States of Andhra Pradesh (8), Orissa (5), Madhya Pradesh (8) and Bihar (6) share 27 districts under this range.

In the range (40·1—48·0%) fall 103 districts. The highest number of such districts is in Uttar Pradesh (20) followed by Madhya Pradesh (18), 9 districts each in Bihar and Mysore, 8 districts in Rajasthan, 7 districts in West Bengal, 6 districts each in Assam, Gujarat and Punjab, 4 districts each in Jammu and Kashmir and Maharashtra, 3 districts in Orissa and 2 districts in Andhra Pradesh. The Union Territory of Andaman and Nicobar Islands also falls under this range.

The districts with a low percentage (32·1—40·0%) of boys enrolled in the primary schools are more frequent in Uttar Pradesh (21), Rajasthan (12) and Madhya Pradesh (9). In all, 42 districts with a low level of primary school enrolment of boys are in these States. The remaining districts are in Mysore, Punjab (5 each), Maharashtra (3 districts), 2 districts each in Bihar, Gujarat, West Bengal and Jammu and Kashmir States, 1 district each in Andhra Pradesh and Orissa. The Union Territory of Tripura also falls under this range. Hence, there are in all 66 districts in this range.

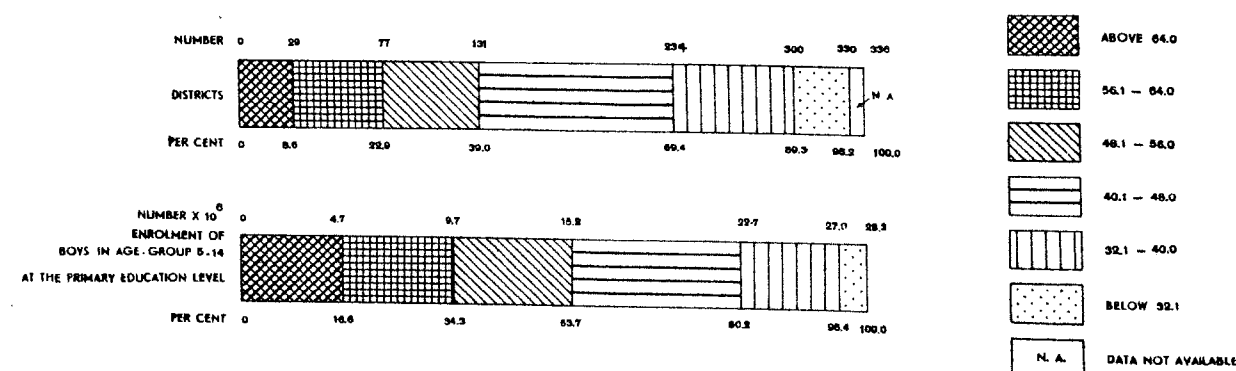
The lowest level of primary school enrolment (below 32·1%) of boys is observed in Telangana Region, Terai districts of Uttar Pradesh and desert area of Rajasthan. As many as 30 districts show the lowest level of primary school enrolment, of which 7 are in Andhra Pradesh, 6 in Uttar Pradesh, 5 in Rajasthan, 4 each in Mysore and Madhya Pradesh, 3 in Orissa and the remaining one in West Bengal.

The above analysis shows that the level of primary school enrolment is high or very high in Kerala, Maharashtra, Madras and Gujarat States and moderately high in Assam, West Bengal, Orissa and Punjab States. Bihar, Jammu and Kashmir and Madhya Pradesh exhibit a medium level of primary school enrolment of boys. Mysore, Rajasthan and Uttar Pradesh lag far behind the other States in primary school enrolment. In these States, nearly one-third of the boys of age group 5—14 are enrolled in primary schools.

Sl. No.	State/Union Territory	Male population in age group 5—14 1961	Primary and middle schools enrolment of boys 1961	Proportion of primary and middle schools enrolment of boys to total male population in age group 5—14 1961
1	2	3	4	5
	INDIA*	59,349,008	28,313,059	47·8
	STATES			
1	Andhra Pradesh	4,687,190	2,156,464	46·0
2	Assam	1,708,487	868,760	50·8
3	Bihar	6,561,967	2,924,365	44·6
4	Gujarat	2,936,248	1,600,292	54·5
5	Jammu and Kashmir	481,549	215,862	44·8
6	Kerala	2,368,321	1,679,358	70·9
7	Madhya Pradesh	4,132,843	1,829,448	44·3
8	Madras	4,072,759	2,534,544	62·2
9	Maharashtra	5,216,132	3,049,090	58·5
10	Mysore	3,246,024	1,276,817	39·3
11	Orissa	2,233,482	1,020,767	45·7
12	Punjab	3,009,284	1,366,313	45·4
13	Rajasthan	2,857,296	1,078,491	37·7
14	Uttar Pradesh	10,133,516	3,916,433	38·6
15	West Bengal	4,697,862	2,266,083	48·2
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	6,611	3,079	46·6
2	Delhi	363,121	231,549	63·8
3	Himachal Pradesh	165,581	83,798	50·6
4	Laccadive, Minicoy and Amindivi Islands	3,353	2,385	71·1
5	Manipur	109,180	94,753	86·8
6	Tripura	153,604	61,264	39·9
7	Dadra and Nagar Haveli	7,806	Not Available	
8	Goa, Daman and Diu	81,075	Not Available	
9	Pondicherry	41,544	24,264	58·4
10	North-East Frontier Agency†	2,137	Not Available	
11	Nagaland	50,082	28,880	57·7
12	SIKKIM	21,954	Not Available	

* National Average has been calculated after excluding the figures relating to Dadra and Nagar Haveli; Goa, Daman and Diu; N.E.F.A. and Sikkim for which data are not available.
† Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.
Note: The enrolment figures include Anglo-Indian Institutions enrolment.

Source: 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education in States, 1960-61, State Education Commission.
3 Ministry of Education, New Delhi.



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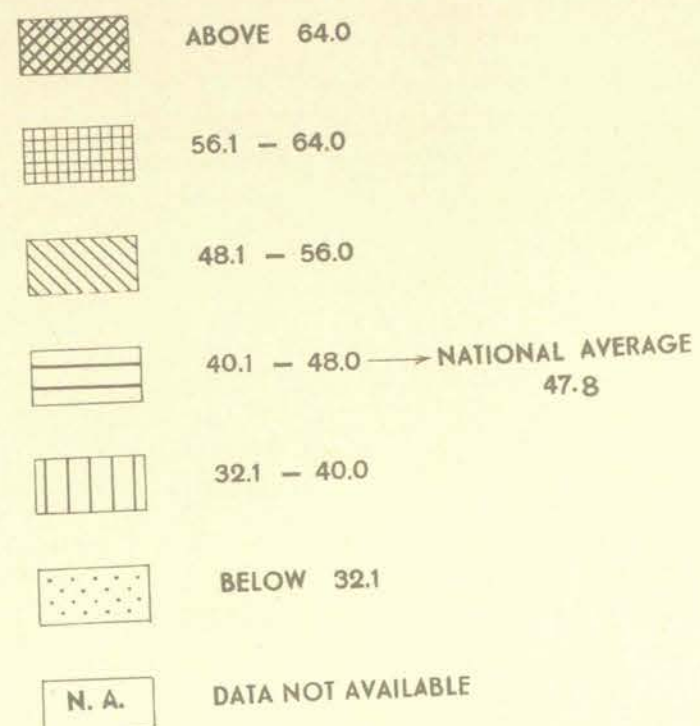
PRIMARY SCHOOL ENROLMENT OF BOYS, 1961

(PROPORTION OF BOYS IN AGE - GROUP 5 - 14
AT THE LEVEL OF PRIMARY EDUCATION)

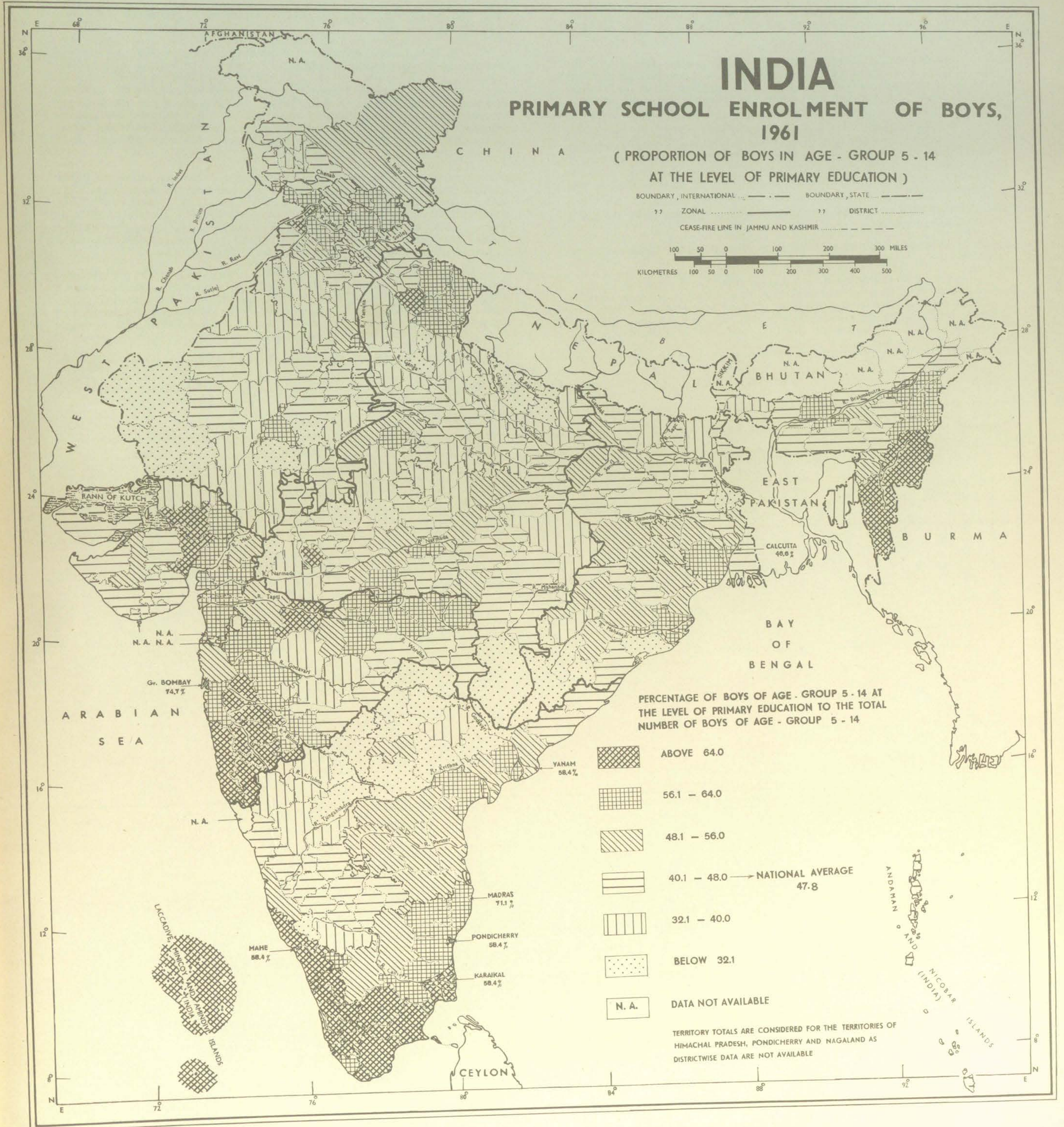
BOUNDARY, INTERNATIONAL BOUNDARY, STATE
ZONAL DISTRICT
CEASE-FIRE LINE IN JAMMU AND KASHMIR

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500

PERCENTAGE OF BOYS OF AGE - GROUP 5 - 14 AT
THE LEVEL OF PRIMARY EDUCATION TO THE TOTAL
NUMBER OF BOYS OF AGE - GROUP 5 - 14



TERRITORY TOTALS ARE CONSIDERED FOR THE TERRITORIES OF
HIMACHAL PRADESH, PONDICHERRY AND NAGALAND AS
DISTRICTWISE DATA ARE NOT AVAILABLE



PRIMARY SCHOOL ENROLMENT OF GIRLS, 1961
(PROPORTION OF GIRLS IN AGE GROUP 5—14 AT THE
LEVEL OF PRIMARY EDUCATION)

Purpose : This map shows the proportions of girls of age group 5—14 at the level of primary education to total number of girls in age group 5—14 in India in the year 1961.

Method : The percentage figures of girls at primary school level for each district are calculated for the age group 5—14. Data thus obtained are arranged in six ranges—two above, one nearer to and three below the National Average (23.5%). The proportional densities are shown in the map by different shadings.

Salient Features : The map would show that the highest proportion (above 52.00%) is concentrated in Manipur and Kerala except Kozhikode district. Areas exhibiting proportions in the range 28.01—52.00% are scattered in Peninsular India, mainly in coastal areas, southern part of West Bengal, coastal Orissa, Gujarat, western Maharashtra, coastal Mysore, Kerala, Madras and Andhra Pradesh.

Following two patterns in the geographical distribution of these two ranges can be discerned :

A. *Extreme Deccan* (South of Cauvery and Cauvery-Krishna Coastal Areas).

The districts in the south, i.e., Madras (59.7%), Chingleput (33.9%), North Arcot (31.7%), South Arcot (31.9%), Nilgiri (40.5%), Madurai (41.2%) in Madras; Trichur (63.0%), Ernakulam (75.8%) and Alleppey (71.0%) in Kerala and coastal districts of Andhra Pradesh, viz., East Godavari (39.6%), West Godavari (50.5%), Krishna (43.1%), Guntur (47.2%), Nellore (33.3%)

and Cuddapah (29.0%) show moderate proportion of enrolment of girls at primary school level.

B. *The Greater Bombay and its Environ :* Western Maharashtra and South Gujarat come within this zone.

Areas of Average Proportions : (16.01—28.00% and 10.01—16.00%). The areas of average proportion are found in close proximity to the moderate proportion areas. Geographically these are scattered all over the country mainly in four groups (a) South 'Deccan', (b) Upper Narmada, Tapti, Mahanadi and Godavari basins (c) Siwalik of Punjab and adjacent plains and (d) Eastern India.

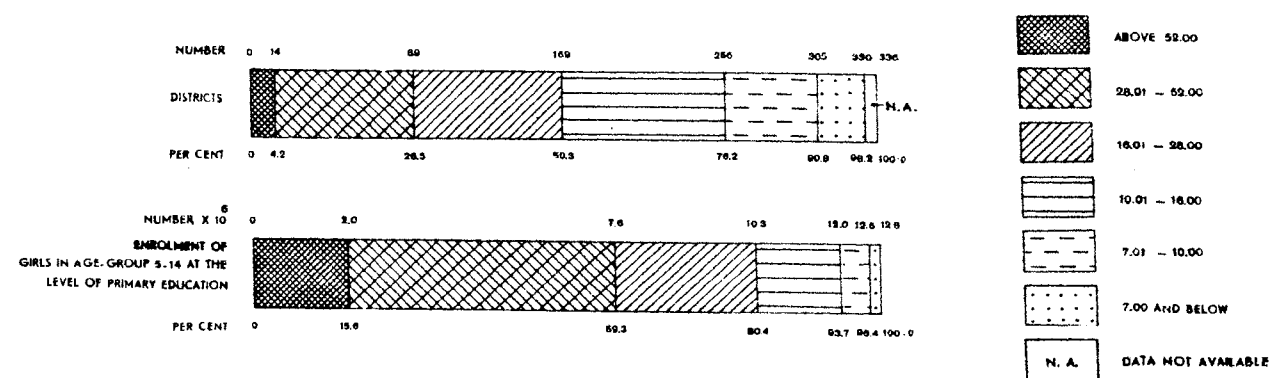
Another feature revealed by the map is that the enrolment of girls at primary level of education is higher in urban areas than in rural areas. The urban districts like Dharwar, Bijapur and Hassan (26.2% each) and Kolar (24.5%) in Mysore; Ambala (24.6%), Gurdaspur (26.3%), Patiala (24.0%) in Punjab exhibit higher proportions than rural districts like Gurgaon (13.0%), Karnal (13.2%) in Punjab; Pithoragarh (13.0%), Garhwal (13.2%) in Uttar Pradesh and Koraput (10.1%) and Bolangir (12.9%) in Orissa.

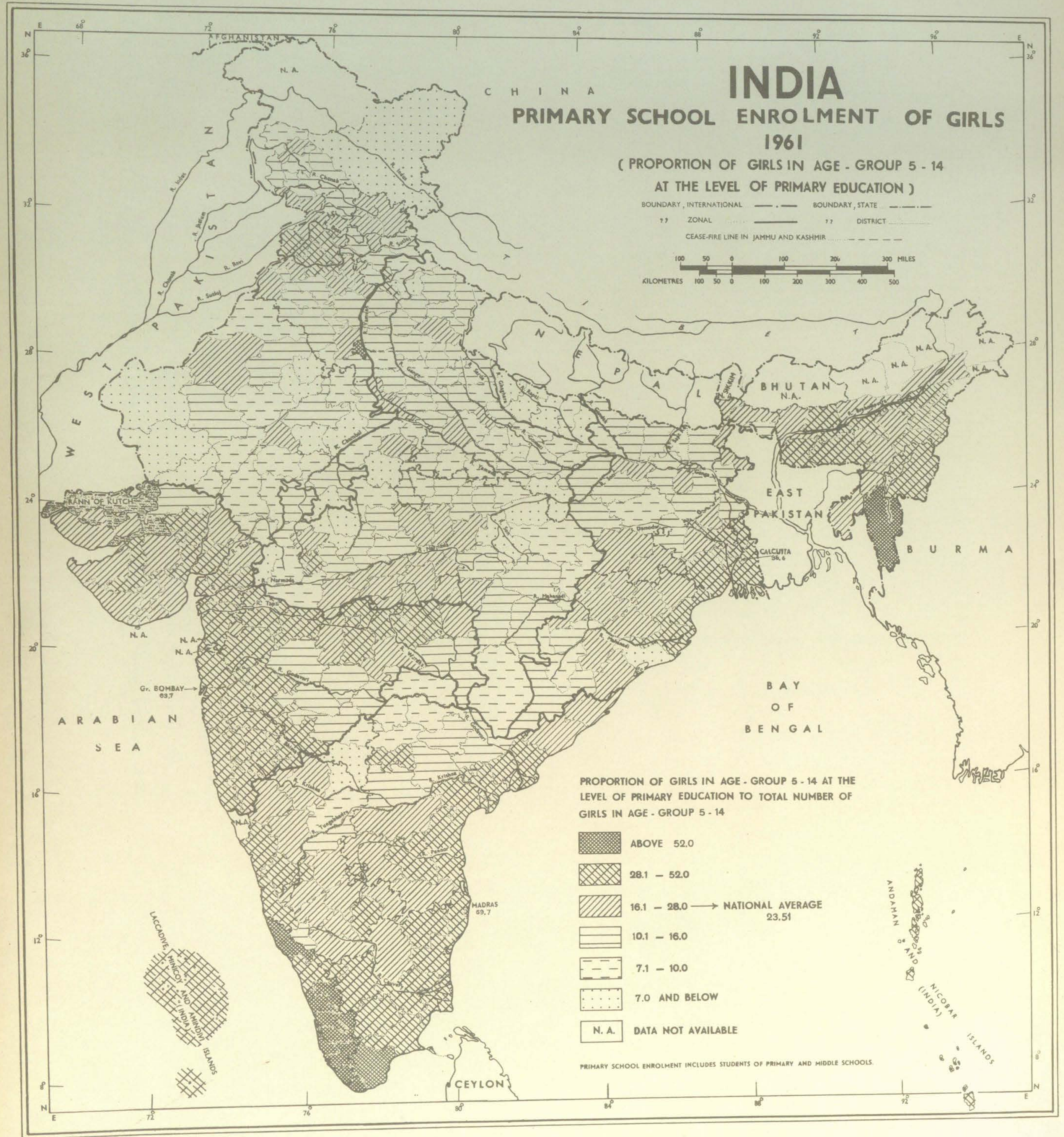
Areas of Low Proportions : (7.01—10.00% and 7.00% and below). These are found in the central part of India, from western Rajasthan to eastern Uttar Pradesh and Madhya Pradesh. Two small regions are also discernible. These are, north Ladakh (5.2%), Anantnag (7.5%) in Jammu and Kashmir and districts of Medak and Nizamabad (9.5% each), Adilabad (8.4%), Karimnagar (8.3%) in Andhra Pradesh and Bidar and Raichur (7.2% each) in Mysore.

Sl. No.	State/Union Territory	Female population in age group 5—14 1961	Primary and middle schools enrolment of girls 1961	Proportion of primary and middle schools enrolment of girls to total female population in age group 5—14 1961
1	2	3	4	5
	INDIA*	54,631,136†	12,816,182	23.5
	STATES			
1	Andhra Pradesh	4,537,806	1,227,476	27.0
2	Assam	1,589,699	473,943	29.8
3	Bihar	5,933,326	795,100	13.4
4	Gujarat	2,639,075	843,309	32.0
5	Jammu and Kashmir	437,905	57,203	13.1
6	Kerala	2,309,888	1,406,794	60.9
7	Madhya Pradesh	3,780,326	498,236	13.2
8	Madras	3,984,643	1,489,790	37.4
9	Maharashtra	4,926,584	1,647,714	33.4
10	Mysore	3,206,692	755,985	23.6
11	Orissa	2,135,754	400,012	18.7
12	Punjab	2,620,920	551,868	21.1
13	Rajasthan	2,497,285	243,531	9.8
14	Uttar Pradesh	8,756,256	984,175	11.2
15	West Bengal	4,343,352	1,143,558	26.3
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	6,228	1,837	29.5
2	Delhi	317,975	166,946	52.5
3	Himachal Pradesh	159,046	20,062	12.6
4	Laccadive, Minicoy and Amindivi Islands	3,061	1,297	42.4
5	Manipur	105,545	45,723	43.3
6	Tripura	143,732	30,889	21.5
7	Dadra and Nagar Haveli	7,129	Not Available	...
8	Goa, Daman and Diu	77,748	Not Available	...
9	Pondicherry	41,202	14,091	34.2
10	North-East Frontier Agency†	1,498	Not Available	...
11	Nagaland	47,156	16,643	35.3
12	SIKKIM	21,305	Not Available	...

* National Average has been calculated after excluding the figures relating to Dadra and Nagar Haveli; Goa, Daman and Diu; N.E.F.A. and Sikkim for which data are not available.
† Excludes population of that portion of N.E.F.A. where All-India Census Schedule was not canvassed.
Note: The enrolment figures include Anglo-Indian Institutions enrolment.

Source: 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education in States, 1960-61, State Education Commission.
3 Ministry of Education, New Delhi.





**NUMBER OF SCHOOL GOING CHILDREN OF AGE GROUP 5—14
PER 1,000 CHILDREN OF AGE GROUP 5—14, 1961**

Purpose : This map seeks to depict the extent to which education is availed of by children of age group 5—14 in India in 1961.

Method : The number of school going children of age group 5—14 per 1,000 children of the same age group is depicted by choropleth method for each district by arranging the data into four ranges—one above, one nearer to and two below the National Average (307).

Salient Features : The values in the highest range 367—728 are confined mainly to the plains. These include Punjab Plain comprising the districts of Amritsar (403), Gurdaspur (384), Kapurthala (384), Ambala (400), Ludhiana (431), Jullundur (462) and Hoshiarpur (427); Delhi (637); the southern part of West Bengal and the coastal districts of Orissa [24-Parganas (372), Calcutta (601), Howrah (403), Hooghly (386), Midnapore (374) in West Bengal and Sambalpur (379), Puri (405), Cuttack (423) and Balasore (376) in Orissa are worth mentioning]. The entire western coast from Gujarat down to Kerala and the southern coast also belong to this range. The notable districts are Mehsana (424), Ahmedabad (506), Kaira (442), Baroda (408), Broach (416) and Surat (412) in Gujarat; Greater Bombay (659), Thana (373), Kolaba (392), Ratnagiri (471), Nasik (374), Jalgaon (456), Poona (454), Satara (449), Sangli (382), Akola (409), Amravati (441), Wardha (471) and Nagpur (471) in Maharashtra; Bangalore (434), South Kanara (442), Coorg (607), North Kanara (469) and Dharwar (396) in Mysore; Madras (702), Chingleput (392), North Arcot (369), South Arcot (376), Coimbatore (389), Nilgiri (483), Madurai (415), Tiruchirapalli (412), Thanjavur (406), Ramanathapuram (420), Tirunelveli (493) and Kanyakumari (609) in Madras and all the districts of Kerala

ranging from 490 (Kozhikode) to 720 (Kottayam). Thus there are in all 80 districts under this high range. Urbanisation and industrialisation round about Calcutta, Greater Bombay, Madras and Ahmedabad may be attributed to the high proportion of school going children in the Hooghly basin, the hinterland of Bombay, Madras and the Gujarat Plains.

The medium range (261—366) areas which comprise 86 districts are mostly close to the highest proportion zones. These are found in Madhya Pradesh (10); Gujarat, Mysore, and Uttar Pradesh (9 each); Andhra Pradesh and Assam (6 each); Maharashtra (7); Punjab, Orissa and West Bengal (5 each); Bihar (4); Rajasthan and Himachal Pradesh (3 each); Jammu and Kashmir (2) and one each in Madras, Tripura and Nagaland.

In the third range (187—260) fall 83 districts. The largest number of districts in this range are found in Madhya Pradesh (17) followed by Uttar Pradesh (15), Bihar and Rajasthan (9 each); Maharashtra and Andhra Pradesh (6 each); Punjab and West Bengal (5 each); Mysore and Orissa (3 each); Himachal Pradesh (2) and one each in Jammu and Kashmir, Gujarat and Nagaland.

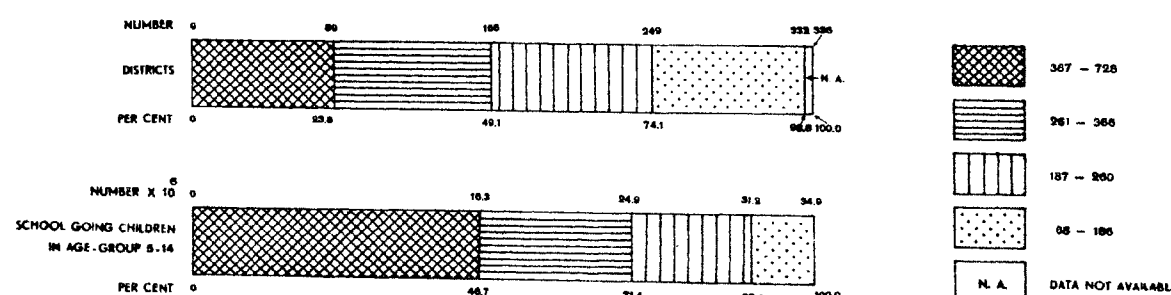
A very poignant feature of the map is the extent of the low proportion areas. This proportion is significant in middle Ganga Valley stretching over the Ganga-Gandak *doab* areas, Santal Parganas, the Malwa Plateau, Bundelkhand and Bastar Regions in Madhya Pradesh, the Indian desert regions and the semi-arid areas of Rajasthan and Telangana in Andhra Pradesh.

Sl. No.	State/Union Territory	Total population in age group 5—14 1961	Number of school going children in age group 5—14 1961	Number of school going children per 1,000 of population in age group 5—14 1961
1	2	3	4	5
	INDIA*	113,980,144†	34,889,370	307
	STATES			
1	Andhra Pradesh	9,224,996	2,557,052	277
2	Assam	3,298,186	1,102,357	334
3	Bihar	12,495,293	2,780,944	223
4	Gujarat	5,575,323	2,060,684	370
5	Jammu and Kashmir	919,454	184,604	201
6	Kerala	4,678,209	2,881,258	616
7	Madhya Pradesh	7,913,169	1,799,081	227
8	Madras	8,057,402	3,353,094	416
9	Maharashtra	10,142,716	4,004,602	395
10	Mysore	6,452,716	2,308,451	358
11	Orissa	4,369,236	1,381,469	316
12	Punjab	5,630,204	1,951,645	347
13	Rajasthan	5,354,581	10,735,35	200
14	Uttar Pradesh	18,889,772	3,648,559	193
15	West Bengal	9,041,214	3,024,278	334
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	12,839	5,482	427
2	Delhi	681,096	433,858	637
3	Himachal Pradesh	324,627	84,706	261
4	Laccadive, Minicoy and Amindivi Islands	6,414	3,297	514
5	Manipur	214,725	98,988	461
6	Tripura	297,336	87,714	295
7	Dadra and Nagar Haveli	14,935	2,136	143
8	Goa, Daman and Diu	158,823	Not Available	...
9	Pondicherry	82,746	39,202	474
10	North-East Frontier Agency†	3,635	Not Available	...
11	Nagaland	97,238	18,264	188
12	SIKKIM	43,259	4,110	95

* National Average has been calculated after excluding the figures relating to Goa, Daman and Diu and N.E.F.A., for which data are not available.

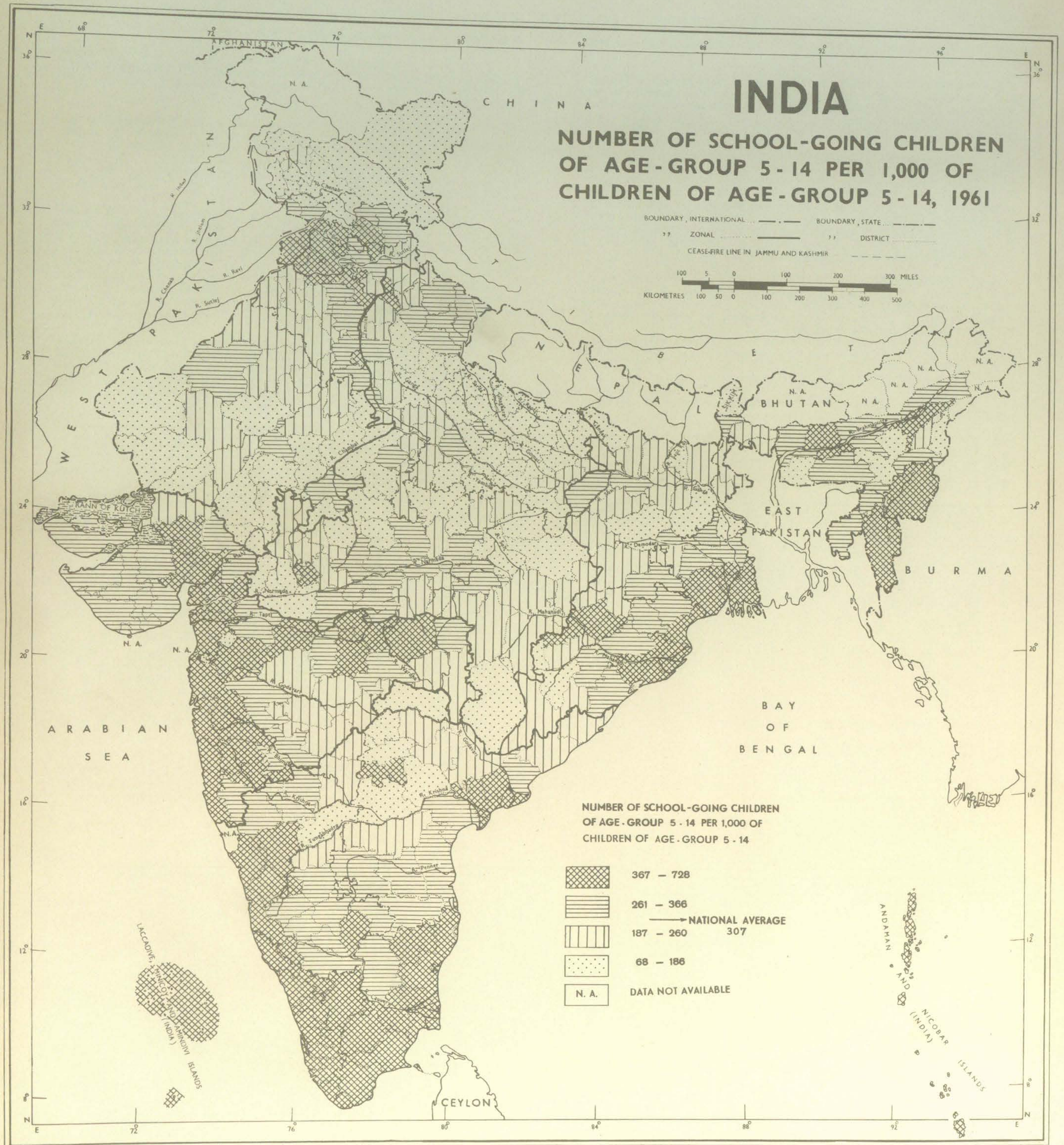
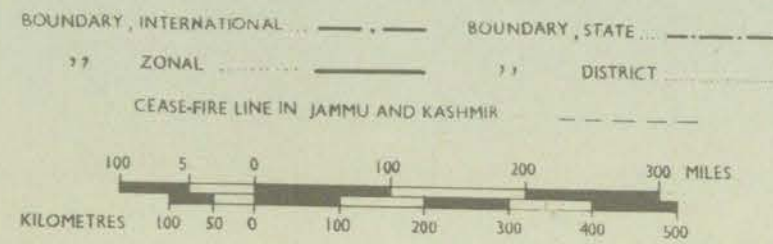
† Excludes that portion of N.E.F.A., where All-India Census Schedule was not canvassed.

Source : Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.



INDIA

NUMBER OF SCHOOL-GOING CHILDREN
OF AGE-GROUP 5-14 PER 1,000 OF
CHILDREN OF AGE-GROUP 5-14, 1961



**EDUCATIONAL ENROLMENT OF POPULATION OF
AGE GROUP 15—29, 1961
(PERCENTAGE OF POPULATION IN AGE GROUP 15—29 AT THE
LEVEL OF SECONDARY AND HIGHER EDUCATION)**

Purpose : The map exhibits the percentage of population in the age group 15—29 at the level of secondary and higher education for each district in India in 1961.

Method : Districtwise figures of population in age group 15—29 at the level of secondary and higher education are converted into percentages and the data obtained are grouped into six ranges—three above; one nearer to and two below the National Average (3.6%) as shown in the legend and represented in the map by choropleth method.

Salient Features : According to 1961 Census, there are 109.79 million persons in the age group 15—29. Out of this population, only 3.95 million, i.e., 3.6% are enrolled in the various educational institutions at the level of secondary and higher education in India. Among the States, Kerala shows the highest figure (5.4%) followed by Assam (5.1%), Punjab (4.6%), Maharashtra (4.4%), Gujarat (4.3%), West Bengal (4.0%), Madras (3.9%) and Mysore (3.8%). Orissa shows the lowest percentage (1.3%) of educational enrolment of population in the country. Among the Union Territories, Delhi (9.5%) tops the list followed by Manipur (8.3%) and Pondicherry (3.4%).

The highest percentage category (above 7.0%) of educational enrolment of population in age group 15—29 covers 23 districts which are distributed all over the country. Two distinct areas are, however, discernible—One stretches from Dehra Dun district of Uttar Pradesh to Jullundur district of Punjab in a form of narrow strip and the second comprises the three districts of Assam and the Union Territory of Manipur. A comparatively higher percentage is noticed in areas having urban centres like Calcutta (13.7%) followed by Greater Bombay (10.9%), Lucknow (10.6%), Dehra Dun (10.3%), Indore (10.2%), Madras (9.8%) and the Union Territory of Delhi (9.5%).

In the next range (5.6—7.0%) of educational enrolment of population fall 19 districts, viz., 5 districts of Uttar Pradesh, 4 districts of Kerala, 2 districts

each of Gujarat, Mysore and Punjab and one district each of Assam, Jammu & Kashmir, Madhya Pradesh and Maharashtra.

There are 34 districts which fall in the third range (4.1—5.5%). Uttar Pradesh and Maharashtra have the maximum number of these districts (5 each) followed by Punjab (4), Bihar and Rajasthan (3 each), Assam, Kerala and Madras (2 each).

In the next range (2.6—4.0%), which is nearer to the National Average (3.6%), fall 89 districts. Uttar Pradesh has the highest number (18) in this range followed by Mysore (10), Maharashtra (9), West Bengal (7), Punjab (6), Gujarat and Madhya Pradesh (5 each) and Rajasthan (3). The Union Territories of Himachal Pradesh, Tripura, Nagaland and Andaman and Nicobar Islands also fall in this range.

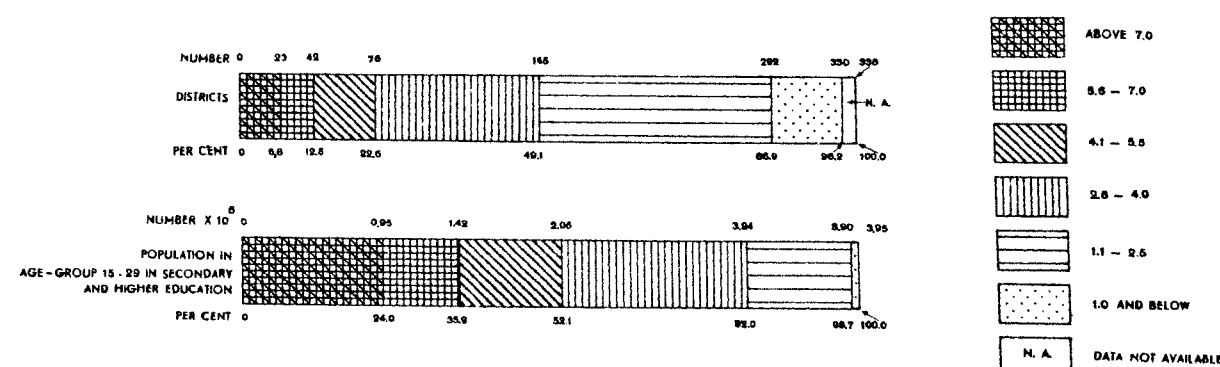
The fifth category (1.1—2.5%) covers more than one-third of the total number of districts which are distributed all over the country. These form four continuous belts which are seen in (1) Deccan Trap (2) central Madhya Pradesh (3) central districts of Orissa and (4) Aravalli Region in Rajasthan. The highest number of districts in this range are in Madhya Pradesh (23) followed by Uttar Pradesh (20), Andhra Pradesh (14), Rajasthan (12), Maharashtra (9) and West Bengal and Orissa (6 each). All the districts of Orissa fall either in this or the next lower range with district of Cuttack having the pride of place (2.5%).

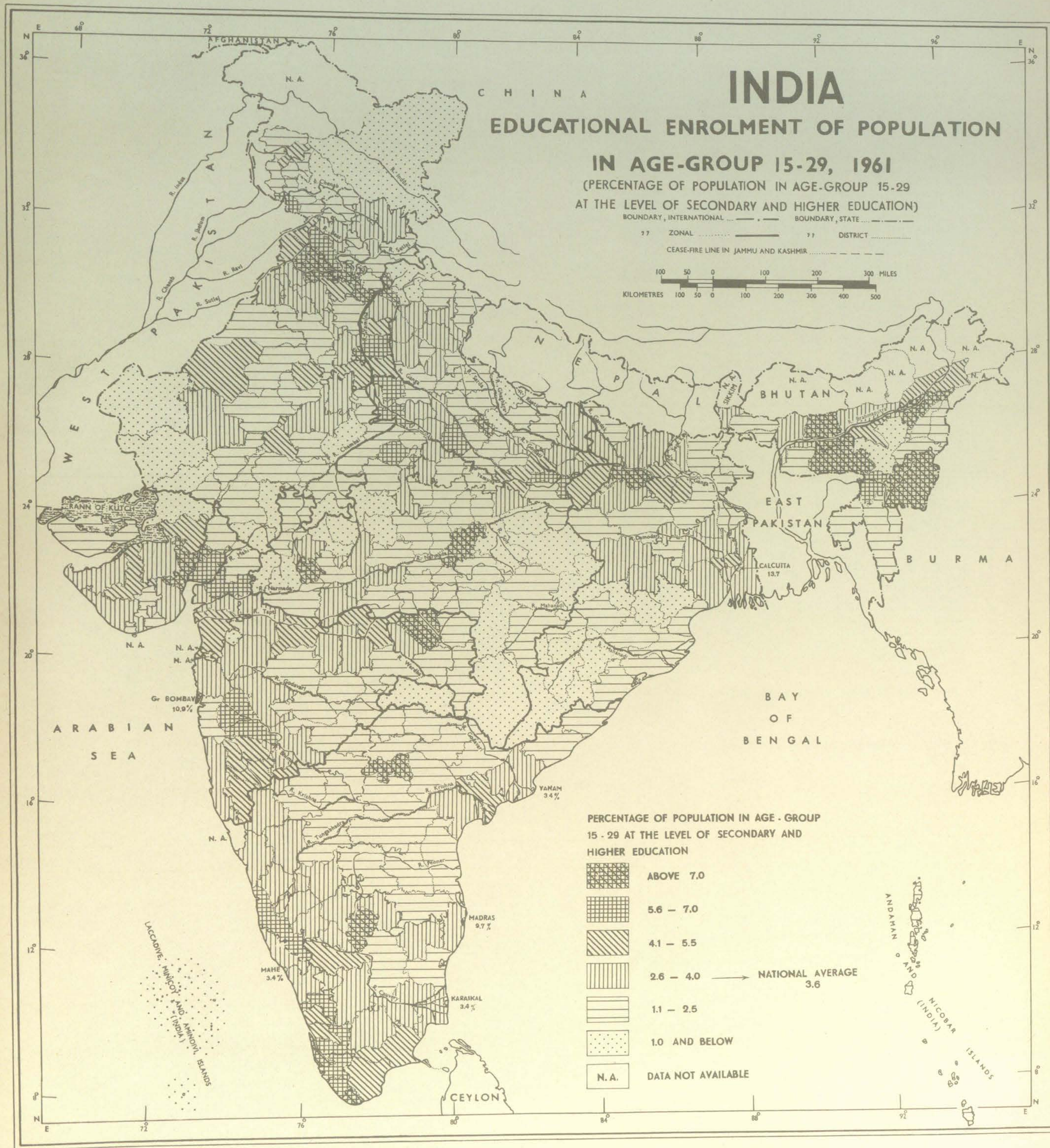
In the lowest range (1.0% and below) fall 38 districts which are mainly in the central and northern India. Out of these 38 districts, Madhya Pradesh has 12 and ranks first followed by Rajasthan (8), Orissa (7), Uttar Pradesh (4) and Gujarat and Jammu and Kashmir (2 each). Assam and Andhra Pradesh also have one district each in this category. The only Union Territory which falls in this range is Laccadive, Minicoy and Amindivi Islands.

Sl. No.	State/Union Territory	Total population in age group 15—29 1961	Post-primary enrolment 1961	Percentage of post-primary enrolment to total population in age group 15—29 1961
1	2	3	4	5
	INDIA*	109,797,013†	3,946,405	3.6
	STATES			
1	Andhra Pradesh	8,998,792	253,837	2.8
2	Assam	3,007,180	153,985	5.1
3	Bihar	11,112,300	410,725	3.7
4	Gujarat	5,215,820	222,121	4.3
5	Jammu and Kashmir	933,851	24,704	2.6
6	Kerala	4,157,749	223,422	5.4
7	Madhya Pradesh	8,200,750	173,007	2.1
8	Madras	8,738,211	337,441	3.9
9	Maharashtra	10,170,030	447,799	4.4
10	Mysore	5,789,381	222,574	3.8
11	Orissa	4,425,106	57,861	1.3
12	Punjab	4,984,320	228,263	4.6
13	Rajasthan	5,045,184	109,241	2.2
14	Uttar Pradesh	17,926,845	615,743	3.4
15	West Bengal	9,055,459	358,181	4.0
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	21,073	231	1.1
2	Delhi	762,813	72,798	9.5
3	Himachal Pradesh	343,468	6,335	1.8
4	Laccadive, Minicoy and Amindivi Islands	6,340	37	0.6
5	Manipur	192,471	15,992	8.3
6	Tripura	284,506	6,768	2.4
7	Dadra and Nagar Haveli	14,067	Not Available	...
8	Goa, Daman and Diu	154,213	Not Available	...
9	Pondicherry	92,432	3,180	3.4
10	North-East Frontier Agency	20,453†	Not Available	...
11	Nagaland	97,126	2,160	2.2
12	SIKKIM	47,073	Not Available	...

* National Average has been calculated after excluding the population figures relating to Dadra & Nagar Haveli; Goa, Daman & Diu; N.E.F.A. and Sikkim for which data are not available.
† Excludes population of that portion of N.E.F.A., where All-India Census Schedule was not canvassed.
Note : The enrolment figures include Anglo-Indian Institutions enrolment.

Source : 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education in States, 1960-61, State Education Commission.
3 Ministry of Education, New Delhi.





**EDUCATIONAL ENROLMENT OF MALE POPULATION IN
AGE GROUP 15—29, 1961
(PERCENTAGE OF MALE POPULATION IN AGE GROUP 15—29 AT THE
LEVEL OF SECONDARY AND HIGHER EDUCATION)**

Purpose : This map shows the districtwise percentage distribution of male population enrolled in the secondary and higher educational institutions in the age group 15—29 in 1961.

Method : The percentages have been classified into six ranges—two above, one nearer to and three below the National Average (5.8%). For each category, different types of hatchings have been selected and all the districts are hatched accordingly as shown in the legend. The areas for which data are not available are marked by the abbreviation 'N.A'.

Salient Features : According to 1961 Census, about 55.2 million male population of India was in the age group 15—29, of which only 3.2 million or 5.8% attended secondary and other higher educational institutions. Among 336 districts in the country, Sikkim being counted as a district, only 37 districts show post-primary educational enrolment to the extent of 9.1% or more of the male population in age group 15—29. The metropolitan district of Calcutta (15.5%) has the highest proportion of male population in post-primary institutions followed by the districts of Lucknow (14.9%) and Indore (14.3%) and the Union Territory of Manipur (14.3%).

The areas falling in the highest range of male population enrolled in secondary and other higher educational institutions are—(i) the north Punjab Plain (6 districts); (ii) the Gujarat Plain (3 districts); (iii) one district each in lower and upper Assam Valley and its contiguous part of Khasi and Jaintia Hills district and (iv) south Bihar Plains (2 districts).

There are 38 districts falling in the next range (7.1—9.0%) of post-primary educational enrolment. The 6 districts of north Bihar, 5 of Kerala and 3 of south-western part of Maharashtra Plateau stand out as compact regions in this range.

In the next range (5.1—7.0%), where the post-primary educational enrolment is nearer to the National Average (5.8%) fall 63 districts. The largest number of such districts fall in the State of Uttar Pradesh (16) followed by Mysore (7), West Bengal (6), 5 each in Madras, Maharashtra and Punjab and 3 each in Andhra Pradesh and Bihar. The Union Territory of Pondicherry is also covered by this range.

The largest number of districts (90) fall under the next category (3.1—5.0%). The largest number (11) of these districts are found in Madhya Pradesh followed by Maharashtra (10); Andhra Pradesh (8); 7 each in Mysore and Rajasthan; 6 each in Bihar, Punjab and Uttar Pradesh; 4 each in Gujarat, Madras and West Bengal. The Union Territories of Nagaland, Tripura and Himachal Pradesh also fall under this range. Orissa is the only state in the country where all the districts show the level of post-primary educational enrolment below the National Average.

In all, 89 districts exhibit the proportions of male population in post-primary education ranging between 1.1% and 3.0%. Most of the districts are in the northern part of the country. They are distributed in five distinct regions, such as—(i) northern Orissa (6), (ii) Terai region of Uttar Pradesh (8), (iii) the hilly region of Jammu and Kashmir (6), (iv) the Vindhyan ranges (13) and (v) the forested hills and plateaus of eastern Madhya Pradesh (10). The Union Territories of Andaman and Nicobar Islands and Laccadive, Minicoy and Amindivi Islands also fall in this range.

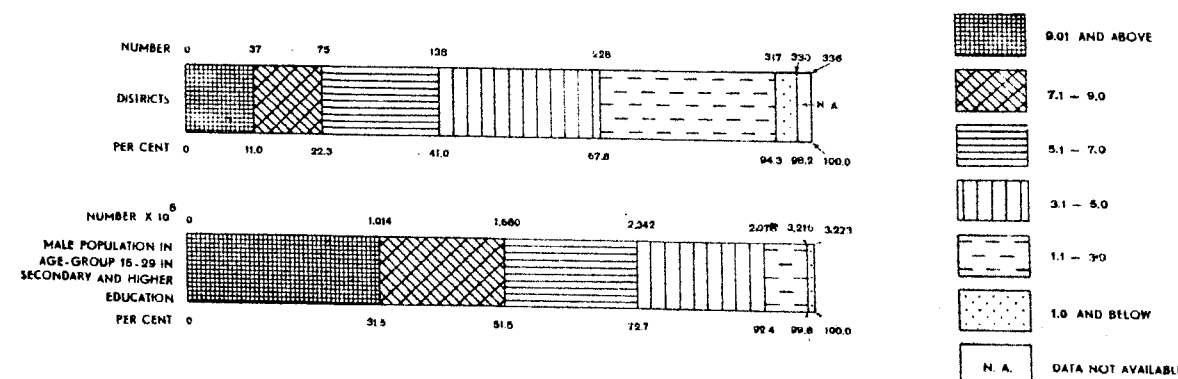
Thirteen districts show the lowest level (1.0% and below) of educational enrolment in post-primary educational institutions. Four of them lie in Orissa; 3 each in Madhya Pradesh and Rajasthan and one each in Gujarat, Uttar Pradesh and Jammu and Kashmir.

Sl. No.	State/Union Territory	Male population in age group 15—29 1961	Post-primary educational enrolment of male population in age group 15—29 1961	Percentage of col. 4 to col. 3
1	2	3	4	5
	INDIA*	55,329,926†	3,223,322	5.8
	STATES			
1	Andhra Pradesh	4,418,099	214,972	4.9
2	Assam	1,548,082	123,845	8.0
3	Bihar	5,384,143	383,399	7.1
4	Gujarat	2,666,881	171,745	6.4
5	Jammu and Kashmir	475,792	20,450	4.3
6	Kerala	1,972,584	139,079	7.1
7	Madhya Pradesh	4,145,973	145,575	3.5
8	Madras	4,247,700	256,046	6.0
9	Maharashtra	5,167,773	346,088	6.7
10	Mysore	2,892,691	176,886	6.1
11	Orissa	2,169,717	52,277	2.4
12	Punjab	2,618,948	186,601	7.1
13	Rajasthan	2,601,097	98,194	3.8
14	Uttar Pradesh	9,156,550	548,087	6.0
15	West Bengal	4,796,243	280,910	5.9
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	14,108	168	1.2
2	Delhi	430,420	50,417	11.7
3	Himachal Pradesh	171,966	5,367	3.1
4	Laccadive, Minicoy and Amindivi Islands	2,980	35	1.2
5	Manipur	92,019	13,187	14.3
6	Tripura	137,216	5,255	3.8
7	Dadra and Nagar Haveli	6,714	Not available	
8	Goa, Daman and Diu	76,751	Not available	
9	Pondicherry	44,217	2,417	5.5
10	North-East Frontier Agency†	17,066	Not available	
11	Nagaland	49,153	1,722	3.5
12	SIKKIM	25,043	Not available	

* National Average has been calculated after excluding the male population in the age group 15—29 relating to the Union Territories of Dadra and Nagar Haveli; Goa, Daman and Diu; North-East Frontier Agency and Sikkim for which the enrolment figures are not available.

† Excludes population of that portion of N.E.F.A., where All-India Census Schedule was not canvassed.

Source : 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education Commission in States, 1960-61.
3 Education in States, 1960-61, Ministry of Education, Government of India.



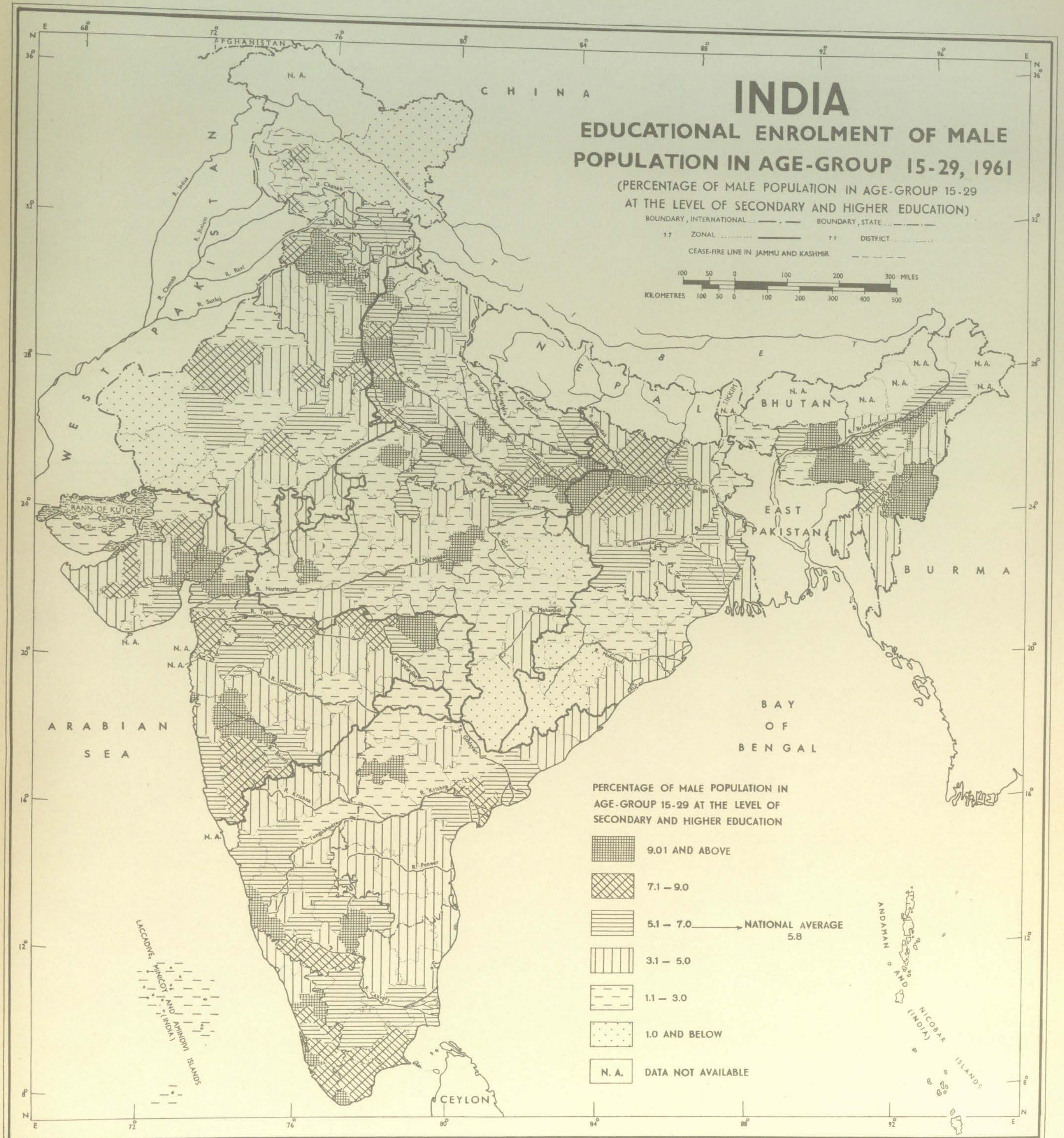
INDIA

EDUCATIONAL ENROLMENT OF MALE POPULATION IN AGE-GROUP 15-29, 1961

(PERCENTAGE OF MALE POPULATION IN AGE-GROUP 15-29
AT THE LEVEL OF SECONDARY AND HIGHER EDUCATION)

BOUNDARY, INTERNATIONAL ... BOUNDARY, STATE ...
1:1 ZONAL ... 1:1 DISTRICT ...
CEASE-FIRE LINE IN JAMMU AND KASHMIR

100 50 0 100 200 300 MILES
KILOMETRES 100 50 0 100 200 300 400 500



**EDUCATIONAL ENROLMENT OF FEMALE POPULATION IN
AGE GROUP 15—29, 1961
(PERCENTAGE OF FEMALE POPULATION IN AGE GROUP 15—29
AT THE LEVEL OF SECONDARY AND HIGHER EDUCATION)**

Purpose : The map represents the districtwise educational enrolment of female population in the age group 15—29 of all the States/Union Territories of the country in 1961.

Method : The data have been classified into six categories—two above, one nearer to and three below the National Average (1.3%) and are shown by different types of hatchings by choropleth method as shown in the legend of the map. The districts where the percentage figures are quite low and cannot be mapped are left blank. 'N.A.' has been indicated wherever data are not available.

Salient Features : According to 1961 Census, there are nearly 54.4 million females in the age group 15—29. Of them only 0.7 million or 1.3% are enrolled in the various post-primary educational institutions. Among the States, Kerala has the highest percentage (3.9%) of female population enrolled in post-primary educational institutions followed by Assam (2.1%); Gujarat and Maharashtra (2.0% each) and Madras, Punjab and West Bengal (1.8% each). The percentages below the National Average are found in Orissa (0.2%) and Rajasthan and Bihar (0.5% each). Among the Union Territories, Delhi (6.7%) records the highest figure followed by Manipur (2.8%), Pondicherry (1.6%) and Tripura (1.0%).

The first category (above 3.1%) of educational enrolment of female population comprises 26 districts. Out of these, Kerala has the highest number of districts (6) followed by Punjab (4), Mysore (3) and Madras and Maharashtra

(2 each). High percentages of female enrolment are observed in the highly developed industrial and commercial districts of the country, viz., Calcutta (10.6%) and Greater Bombay (9.2%). The other districts are: Alleppey (7.6%); Union Territory of Delhi (6.7%); Madras, Dehra Dun and Kanyakumari (6.4% each); Indore (5.8%) and Lucknow and Kottayam (5.4% each).

In the next range (2.0—3.1%) of educational enrolment of female population fall 23 districts which are scattered.

In the third range (1.1—1.9%) of educational enrolment of female population, in which lies the National Average also, lie 61 districts.

The fourth category (0.5—1.0%) of educational enrolment of female population covers 85 districts which are found scattered.

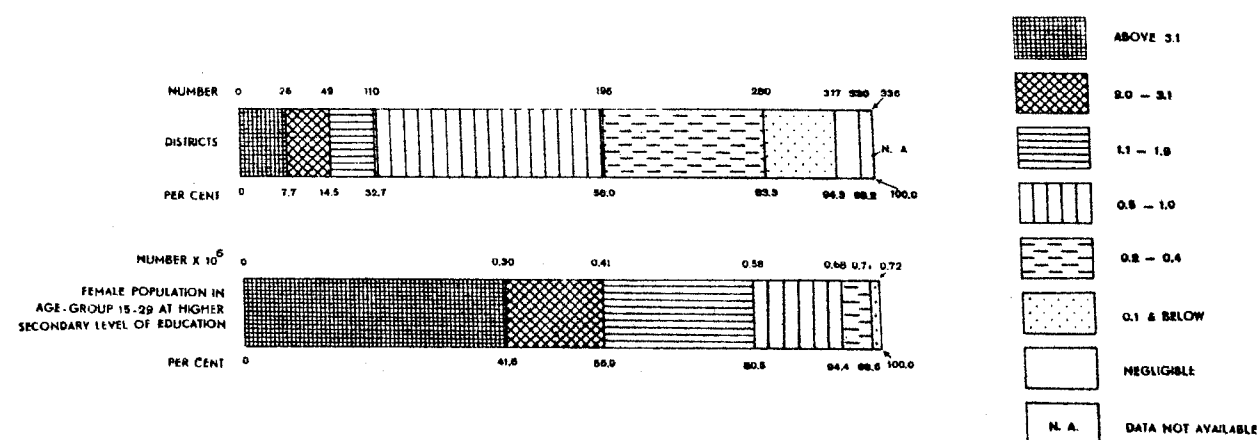
The next range (0.2—0.4%) covers the same number of districts as in the preceding range. The districts in this range though scattered all over the country are visible mostly in Central and Eastern Zones. Madhya Pradesh has the largest share of districts in this range (23) followed by Uttar Pradesh (16), Bihar (10), Rajasthan (9), Maharashtra and Orissa (6 each).

The lowest category (0.1% and below) is observed in the eastern part of Uttar Pradesh and Dandakaranya Region. There are 37 districts falling in this category. The highest number of districts are in Uttar Pradesh (15) followed by Madhya Pradesh (7), Andhra Pradesh and Rajasthan (4 each) and Orissa (3) etc.

Sl. No.	State/Union Territory	Female population in age group 15—29 1961	Post-primary enrolment of female population in age group 15—29 1961	Percentage of col. 4 to col. 3 1961
1	2	3	4	5
	INDIA*	54,467,087†	723,083	1.3
	STATES			
1	Andhra Pradesh	4,580,693	38,865	0.8
2	Assam	1,459,098	30,140	2.1
3	Bihar	5,728,157	27,326	0.5
4	Gujarat	2,548,939	50,376	2.0
5	Jammu and Kashmir	458,059	4,254	0.9
6	Kerala	2,185,165	84,343	3.9
7	Madhya Pradesh	4,054,777	27,432	0.6
8	Madras	4,490,511	81,395	1.8
9	Maharashtra	5,002,257	101,111	2.0
10	Mysore	2,896,690	45,688	1.6
11	Orissa	2,255,389	5,584	0.2
12	Punjab	2,365,372	41,662	1.8
13	Rajasthan	2,444,087	11,047	0.5
14	Uttar Pradesh	8,770,295	67,656	0.8
15	West Bengal	4,259,216	77,271	1.8
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	6,965	63	0.9
2	Delhi	332,393	22,381	6.7
3	Himachal Pradesh	171,502	968	0.6
4	Laccadive, Minicoy and Amindivi Islands	3,360	2	0.1
5	Manipur	100,452	2,805	2.8
6	Tripura	147,290	1,513	1.0
7	Dadra and Nagar Haveli	7,353	Not Available	
8	Goa, Daman and Diu	77,462	Not Available	
9	Pondicherry	48,215	763	1.6
10	North-East Frontier Agency†	3,387	Not Available	
11	Nagaland	47,973	438	0.9
12	SIKKIM	22,030	Not Available	

* National Average has been calculated after excluding the female population in the age group 15—29 of the Union Territories of Dadra and Nagar Haveli; Goa, Daman and Diu; North-East Frontier Agency and Sikkim for which the enrolment figures are not available. Excludes female population of that portion of North-East Frontier Agency where All-India Census Schedule was not canvassed.

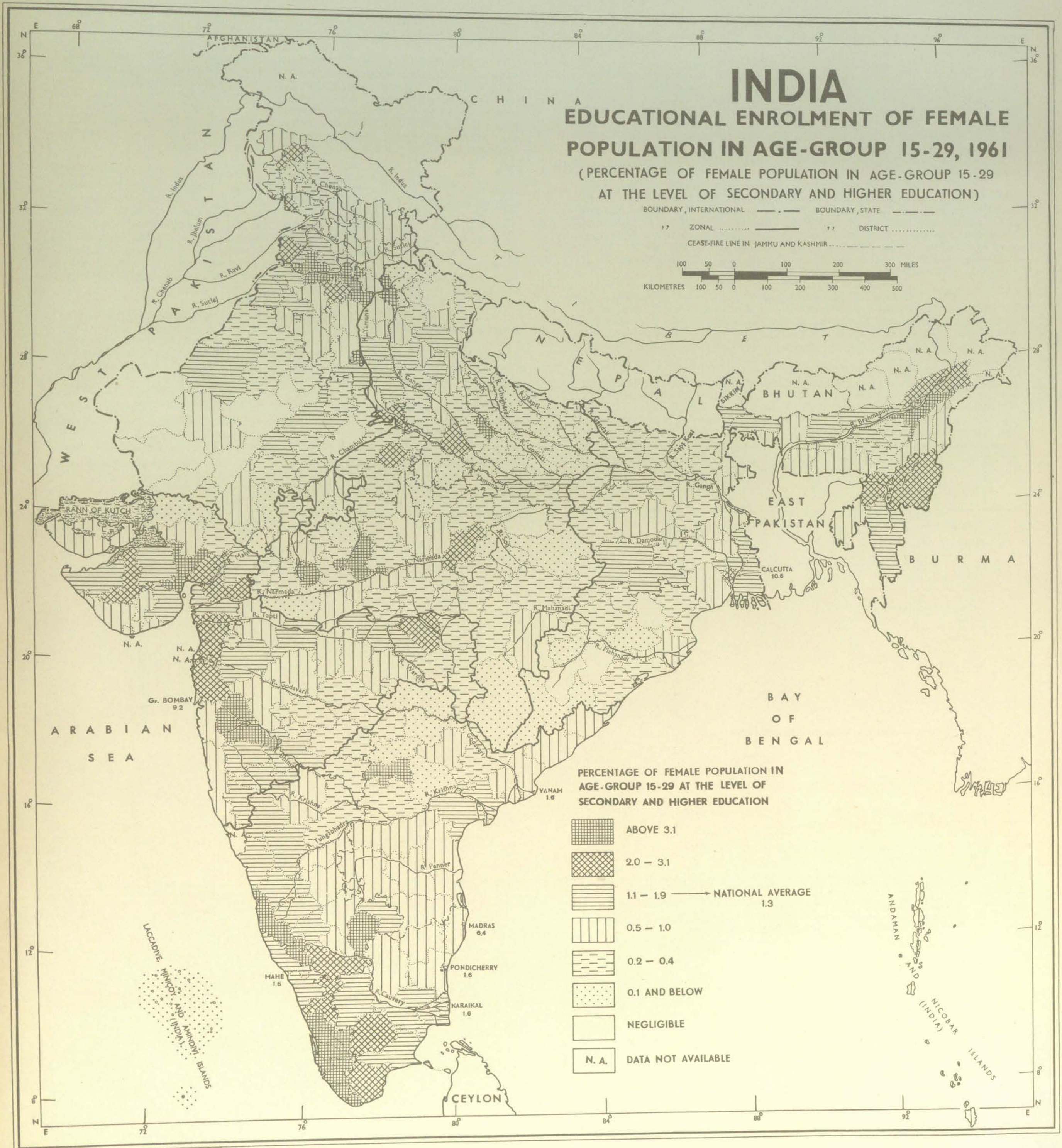
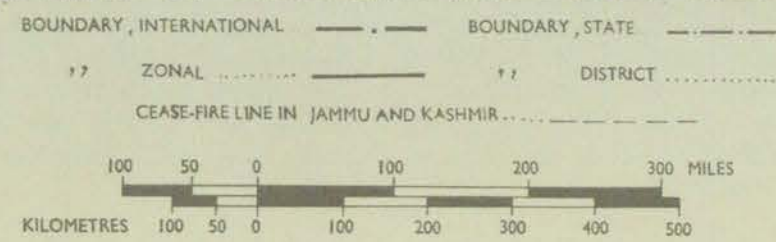
Source : 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education Commission's Education in States, 1960—61.
3 Education in States, 1960—61, Ministry of Education, Govt. of India.



INDIA

EDUCATIONAL ENROLMENT OF FEMALE POPULATION IN AGE-GROUP 15-29, 1961

(PERCENTAGE OF FEMALE POPULATION IN AGE-GROUP 15-29
AT THE LEVEL OF SECONDARY AND HIGHER EDUCATION)



NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE PRIMARY LEVEL OF EDUCATION, 1961

Purpose : This map intends to show the number of teachers per 1,000 students at the primary level of education in 1961 for each district in the country.

Method : The map is drawn by choropleth method. The data for teacher/student ratio are arranged into six ranges—three above, one nearer to and two below the National Average (26.2). Hatchings of different intensities have been selected for these groupings which are shown in the legend.

Salient Features : According to 1961 Census, there are 1.09 million teachers for 41.43 million students, which works out to 26.2 teachers per 1,000 students at the primary level of education in the country.

Only 30 districts in the country show a high teacher/student ratio (above 38.0) at the primary level of education, of which 11 districts are in Madhya Pradesh, 6 in Rajasthan, 5 in Mysore, 2 each in Assam and Jammu and Kashmir and 1 each in Uttar Pradesh, Orissa and the Union Territories of North-East Frontier Agency and Manipur. The highest teacher/student ratio is in Garo Hills district (169.0) of Assam followed by Coorg district (102.5) in Mysore, Puri district (60.8) in Orissa, Panna (58.4) and Chhatarpur (58.2) districts in Madhya Pradesh.

In all, 47 districts of the country show the number of teachers per 1,000 students ranging between 34.1 and 38.0 at the primary level of education. These are distributed in the Karnataka Plateau including coastal area districts (12), western districts of Madhya Pradesh (8), eastern part of Rajasthan (4), the Union Territories of Nagaland (3), Tripura (1) and Himachal Pradesh (6).

The range (30.1—34.0) which is just above the National Average (26.2) contains fifty three districts in the country. Madhya Pradesh shares the largest number of such districts (11) followed by Rajasthan (8), Andhra Pradesh, Maharashtra, Uttar Pradesh and West Bengal (5 each), Gujarat (4), Orissa (3), Jammu and Kashmir and Mysore (2 each) and Assam and Kerala (1 each). The Union Territory of Andaman and Nicobar Islands is also covered by this

range. The largest belt of this range stretches from Nalgonda district of Andhra Pradesh to Vidarbha region of Maharashtra comprising 10 districts.

The range (26.1—30.0) which is nearer to the National Average (26.2) covers the largest area in the country comprising 76 districts. Some of these form three distinctive regions : (i) eastern part of Madras and its contiguous area, (ii) Terai tract—comprising 20 districts in the northern part of the Ganga Plain and (iii) eastern part of Madhya Pradesh and its contiguous north Orissa hills which include 8 districts. Others are distributed in Rajasthan (8), West Bengal (5), central and eastern Madhya Pradesh (7), Gujarat (4), 3 each in Assam and Maharashtra, 2 each in Bihar and Punjab and one in Mysore.

The ratios of teachers per 1,000 students are low (22.1—26.0) in 76 districts which are distributed mainly in four distinct areas: (i) coastal districts of Andhra Pradesh (7), (ii) south-western districts of Maharashtra (10), (iii) lower Ganga-Yamuna *doab* area (18) and (iv) 10 districts of Bihar. Besides, there are some isolated pockets scattered almost in all the States as 4 each in Assam, Gujarat, Punjab and the Union Territory of Pondicherry; 3 each in Andhra Pradesh, Madras and West Bengal; 2 in Orissa; one each in Kerala, Maharashtra and the Union Territory of Laccadive, Minicoy and Amindivi Islands. There is not a single district in Mysore, Madhya Pradesh, Rajasthan and Jammu and Kashmir in this range.

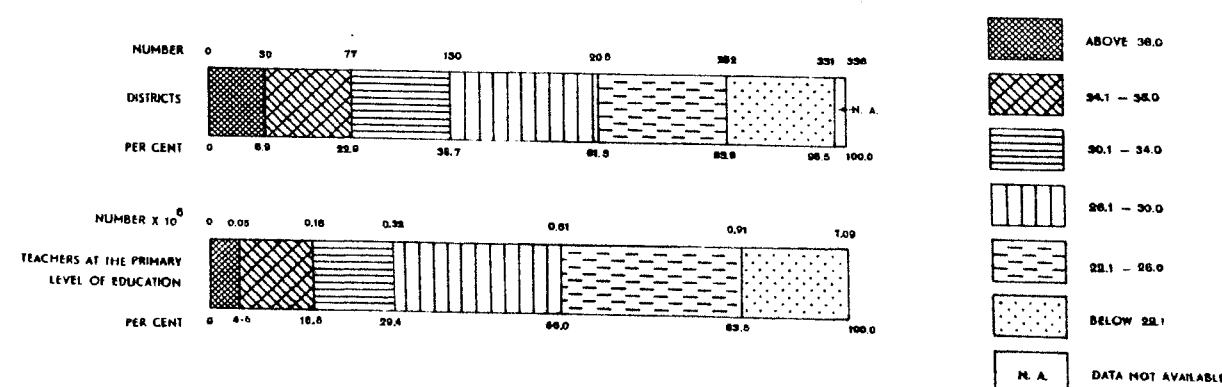
In all, 49 districts in the country show the number of teachers per 1,000 students in the lowest range (below 22.1) at the primary level of education. These are distributed in the States of Punjab (13), Uttar Pradesh (10), Maharashtra (6), Bihar (5), 4 each in Gujarat, Jammu and Kashmir and Kerala and one each in Madras, West Bengal and the Union Territory of Delhi. In Punjab, more than half of its total districts fall in this range.

The map depicts that densely populated parts of country usually show a low teacher/student ratio. High ratios are found mainly in sparsely populated parts of the country.

Sl. No.	State/Union Territory	Students in primary and middle schools 1961	Teachers in primary and middle schools 1961	Teachers per 1000 students 1961
1	2	3	4	5
INDIA	...	41,429,004	1,087,138	26.2
STATES				
1 Andhra Pradesh	...	3,383,940	87,138	25.8
2 Assam	...	1,342,703	41,106	30.6
3 Bihar	...	3,719,465	85,067	22.9
4 Gujarat	...	2,443,601	57,958	23.7
5 Jammu and Kashmir	...	273,065	6,916	25.3
6 Kerala	...	3,086,152	74,860	24.3
7 Madhya Pradesh	...	2,327,684	78,962	33.9
8 Madras	...	4,024,334	110,669	27.5
9 Maharashtra	...	4,696,804	114,610	24.4
10 Mysore	...	2,032,802	72,490	35.7
11 Orissa	...	1,420,779	42,913	30.2
12 Punjab	...	1,918,181	37,154	19.4
13 Rajasthan	...	1,322,022	42,138	31.9
14 Uttar Pradesh	...	4,900,608	122,054	24.9
15 West Bengal	...	3,409,641	94,599	27.7
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	4,916	154	31.3
2 Delhi	...	398,495	7,615	19.1
3 Himachal Pradesh	...	103,860	3,781	36.4
4 Laccadive, Minicoy and Amindivi Island	...	3,681	85	23.1
5 Manipur	...	140,476	5,592	39.8
6 Tripura	...	102,090	3,545	34.7
7 Dadra and Nagar Haveli	...	...	Not Available	...
8 Goa, Daman and Diu	...	...	Not Available	...
9 Pondicherry	...	38,355	950	24.8
10 North-East Frontier Agency	...	6,789	343	50.5
11 Nagaland	...	45,523	1,582	34.8
12 SIKKIM	...	...	Not Available	...

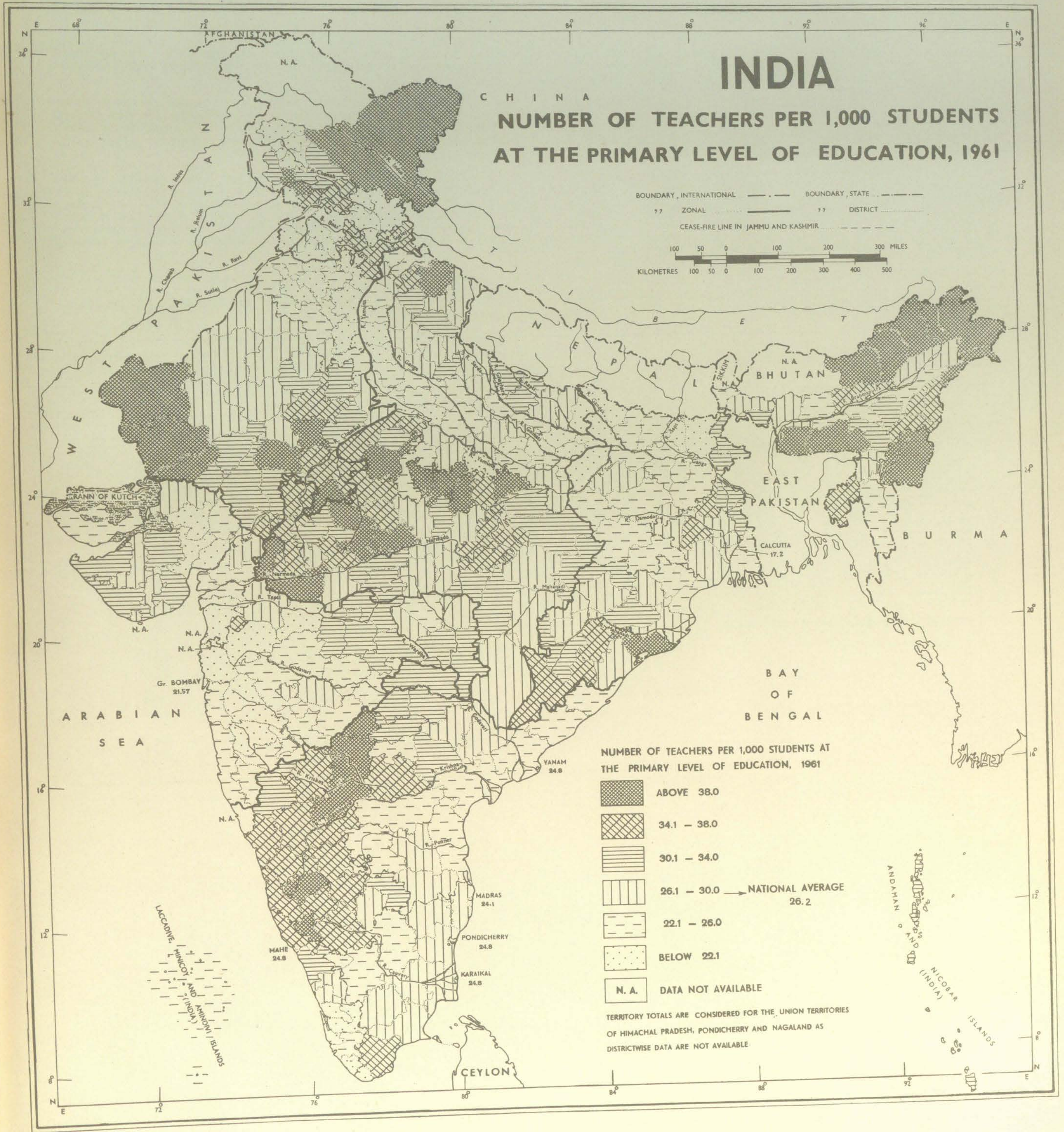
Note : 1 All-India and Union Territories figures have been taken from "Education in States, 1960-61" published by Ministry of Education, Govt. of India.
2 District and State figures have been taken from "Education in States, 1960-61" published by Education Commission.
3 All-India totals in cols. 3 and 4 do not tally with the States and Union Territories totals because of the different sources being used as mentioned in notes 1 and 2 above.

Source : 1 Census of India, 1961, Vol. I, India, Part II-C(i)—Social and Cultural Tables.
2 Education in States, 1960-61, Education Commission.
3 Education in States, 1960-61, Ministry of Education, Govt. of India.



INDIA

NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE PRIMARY LEVEL OF EDUCATION, 1961



NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE SECONDARY LEVEL OF EDUCATION, 1961

Purpose : This map intends to show the availability of teachers per 1,000 students at the Secondary level of education in 1961 for each of the districts in the country.

Method : The data for all the districts are grouped into six ranges—three above, one nearer to and two below the National Average (94.1). Hatchings of different intensities have been selected against these six ranges as shown in the legend to the map.

Salient Features : According to 1961 Census, there are 0.30 million teachers for the 3.14 million students in the country which comes to 94.1 teachers per 1,000 students. This indicates that India in 1961 has only 94.1 teachers per 1,000 students at the Secondary level of education.

In all, 37 districts fall under the highest range of teachers per 1,000 students (above 165.0) at the Secondary level of education in the country. Nearly 60% of the districts are found in the Himalayan area; Punjab Plain and Madhya Pradesh. The remaining districts are scattered in Rajasthan, Kerala, Andhra Pradesh, Assam and Uttar Pradesh. The largest number of teachers per 1,000 students (793.9) is in the Garo Hills district of Assam followed by Ladakh district (516.7) of Jammu and Kashmir State, the Union Territory of Laccadive, Minicoy and Amindivi Islands (513.5) and Mirzapur district (367.4) of Uttar Pradesh.

64 districts fall in the next range (135.1—165.0). They are more frequent in the central part of the country stretching from northern Andhra

Coast across eastern plateau and Vidarbha Region to Marathawada Plateau of Maharashtra.

In the next range (105.1—135.0) fall 74 districts. 7 districts of Madras and 12 districts of Andhra Pradesh make a compact block. The other significant pockets are in the Chambal Valley, North Punjab Plain and in the Hooghly Industrial Region.

In all, 78 districts lie in the next range (75.1—105.0) which is nearer to the National Average. The entire coastal area in the west, from South Kanara district of Mysore to Banaskantha district of Gujarat fall under this range. Another tract covering the northern Orissa Plateau (6) and central districts of Madhya Pradesh (12) is easily discernible.

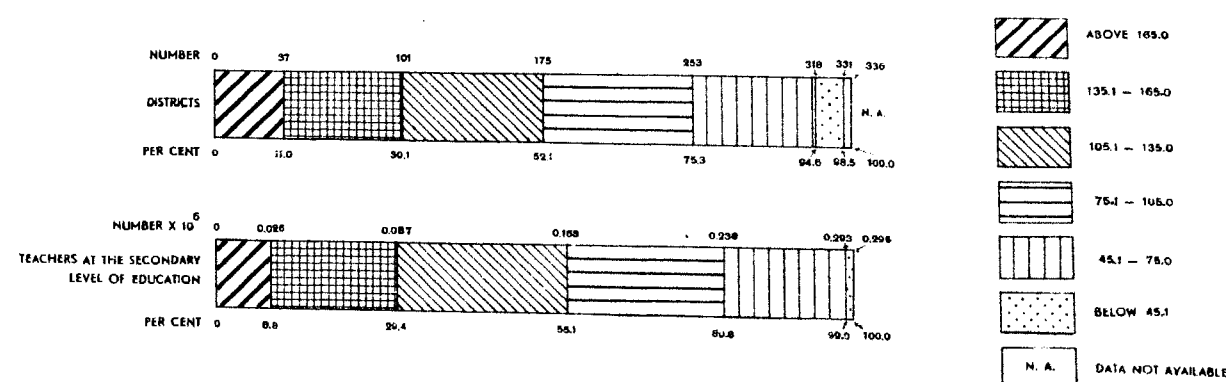
Unlike the southern part, the northern part shows a significant shortage of teachers at the Secondary level of education. There are 65 districts which come under the range 45.1—75.0. A large tract in the north, covering nearly three-fifth of the districts of Uttar Pradesh and whole of Bihar State excluding one district having values in this range can be discerned. 6 districts of Assam, 4 of Mysore, 3 of Maharashtra, 2 of Punjab and the Union Territory of Manipur also fall in this range.

In 13 districts of the country, there is an acute dearth of teachers (below 45.1) at the Secondary level of education. The maximum number of such districts are in Mysore State (7) followed by Nagaland (3), Uttar Pradesh (2) and Gujarat (1).

Sl. No.	State/Union Territory	Students at the secondary level 1961	Teachers in secondary schools 1961	Teachers per 1,000 of students at the secondary level 1961
1	2	3	4	5
INDIA	...	3,144,487	295,997	94.1
STATES				
1 Andhra Pradesh	...	196,184	24,937	127.1
2 Assam	...	126,148	10,042	79.6
3 Bihar	...	320,574	18,041	56.3
4 Gujarat	...	173,159	14,043	81.1
5 Jammu and Kashmir	...	16,582	2,974	179.4
6 Kerala	...	178,675	26,854	150.3
7 Madhya Pradesh	...	124,461	13,730	110.3
8 Madras	...	267,952	29,127	108.7
9 Maharashtra	...	337,434	33,100	98.1
10 Mysore	...	169,563	10,634	62.7
11 Orissa	...	43,765	4,827	110.3
12 Punjab	...	170,415	21,969	128.9
13 Rajasthan	...	76,904	9,518	123.8
14 Uttar Pradesh	...	503,234	35,098	69.7
15 West Bengal	...	218,304	29,391	134.6
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	231	46	199.1
2 Delhi	...	51,940	7,830	150.8
3 Himachal Pradesh	...	5,392	1,499	278.0
4 Laccadive, Minicoy and Amindivi Islands	...	37	19	513.5
5 Manipur	...	13,978	806	57.7
6 Tripura	...	5,163	688	133.2
7 Dadra and Nagar Haveli	...	...	Not Available	...
8 Goa, Damah and Diu	...	...	Not Available	...
9 Pondicherry	...	2,771	447	161.3
10 North-East Frontier Agency	...	260	78	300.0
11 Nagaland	...	2,108	82	38.9
12 SIKKIM	...	...	Not Available	...

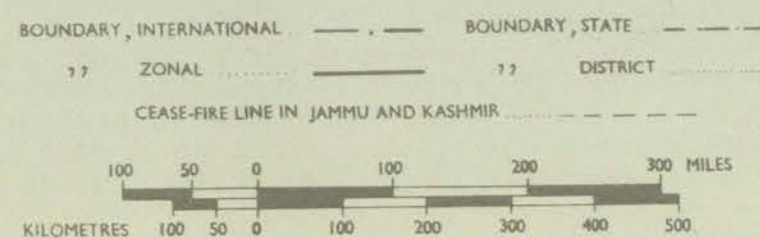
Note : i All-India and Union Territories figures have been taken from "Education in States, 1960-61" published by Ministry of Education, Government of India.
ii District and State figures have been taken from "Education in States, 1960-61" published by Education Commission.

Source : 1 Education in States, 1960-61, Education Commission.
2 Education in States, 1960-61, Ministry of Education, Government of India.

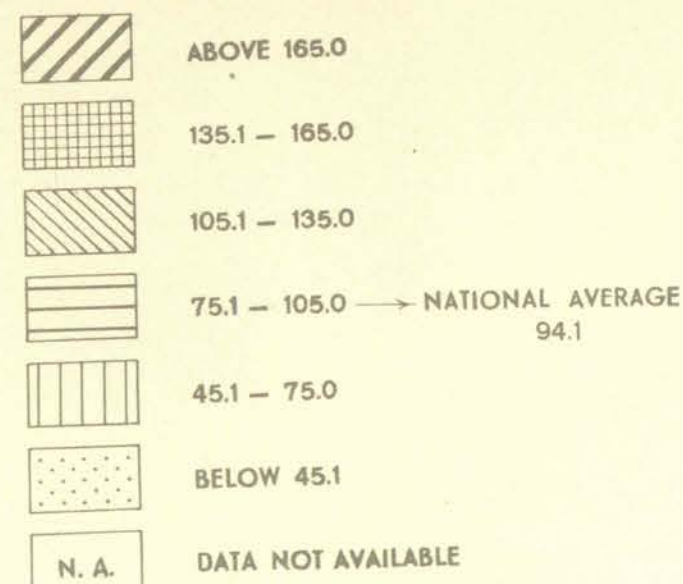


INDIA

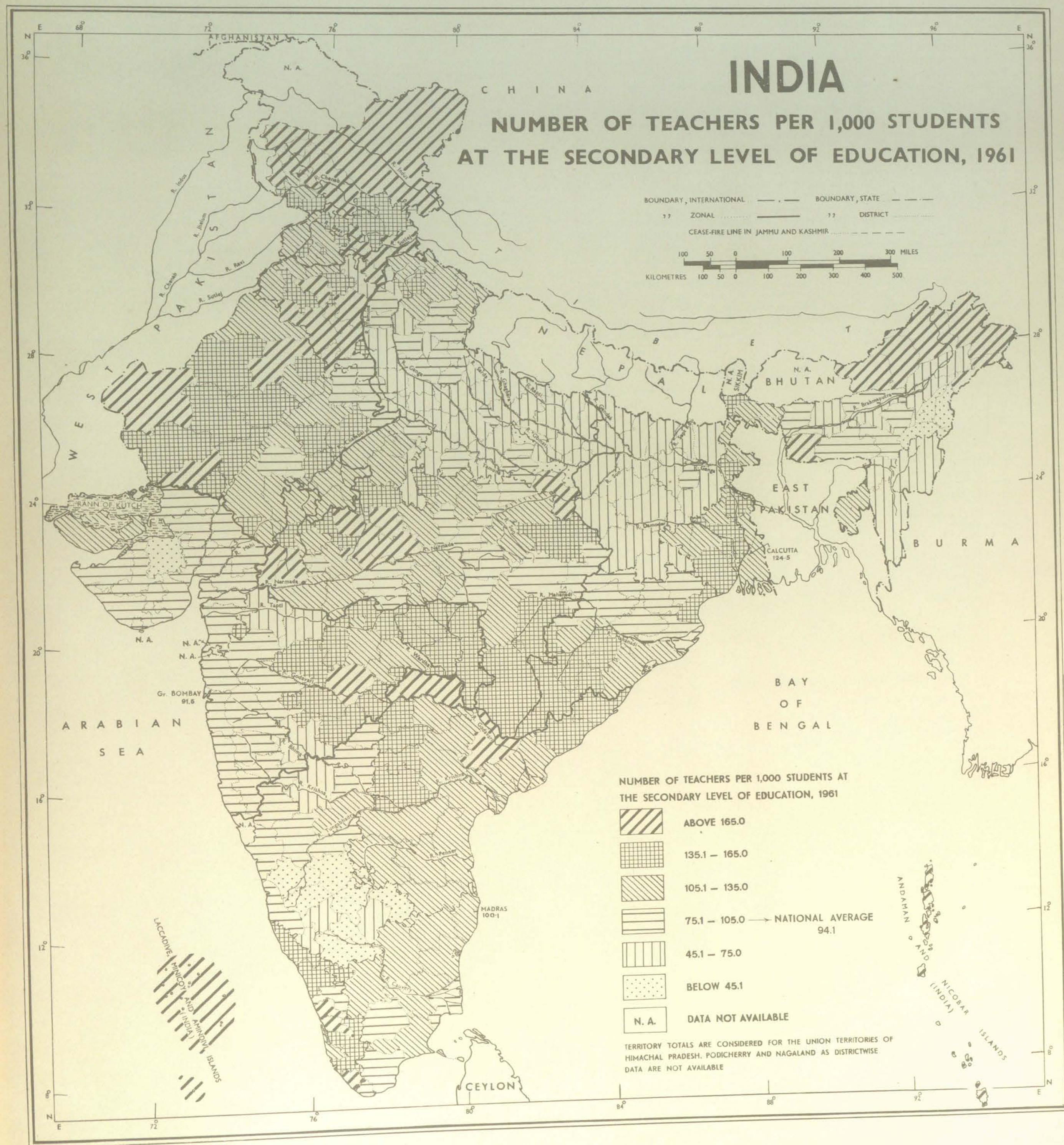
NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE SECONDARY LEVEL OF EDUCATION, 1961



NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE SECONDARY LEVEL OF EDUCATION, 1961



TERRITORY TOTALS ARE CONSIDERED FOR THE UNION TERRITORIES OF HIMACHAL PRADESH, PONDICHERY AND NAGALAND AS DISTRICTWISE DATA ARE NOT AVAILABLE



NUMBER OF TEACHERS PER 1,000 STUDENTS AT THE UNIVERSITY LEVEL OF EDUCATION, 1961

Purpose : This map depicts the districtwise teacher/student ratios at the University level of education as in 1961.

Method : The ratios of teachers per 1,000 students at the University level are calculated for all the districts and these are depicted in the map by choropleth method by grouping the data into six ranges—four above, one nearer to and one below the National Average (56.8) as shown in the legend.

Salient Features : In all, 34 districts show very high teacher/student ratios (above 125.0). These are found in Himachal Pradesh (6), Jammu and Kashmir (2), the western part of Madhya Pradesh (7) and the northern part of Telangana Plateau (4). The remaining districts are scattered in Uttar Pradesh (4), Rajasthan (3), Madhya Pradesh (2), one each in Maharashtra and Orissa and the Union Territory of Pondicherry (4). All these areas have relatively low density of population. It is worthnoticing that the ratios in this range are completely absent in the north-eastern part of the country.

The teacher/student ratios of the next high range (105.1—125.0) are found in 22 districts. These are again more frequent in the thinly populated areas of the country, such as, Rayalaseema Plateau of Andhra Pradesh (3), Aravalli hills of Rajasthan (5) and hills and plateaus of southern Orissa (3).

In the next range (85.1—105.0) fall 45 districts. More than half of these districts are in the states of Madhya Pradesh (11) and Andhra Pradesh and Madras (6 each). Other districts are scattered, e.g., 4 in Rajasthan; 3 each in Gujarat, Mysore and Uttar Pradesh; 2 each in Maharashtra and Orissa and 1 each in Assam, Jammu and Kashmir and West Bengal and the Union Territories of Delhi and Manipur.

A large number of districts show teacher/student ratios between 65.1

and 85.0. In all, 72 districts fall under this range. These are more frequent in forested hill areas of Madhya Pradesh (12); Maharashtra (8); Andhra Pradesh, Rajasthan and Uttar Pradesh (7 each); Orissa and Punjab (5 each); Mysore (4); Kerala, West Bengal and the Union Territory of Nagaland (3 each); Gujarat and Madras (2 each) and Assam, Bihar, Jammu and Kashmir and the Union Territory of Tripura (1 each).

In 92 districts, the teacher/student ratios are in the range 45.1—65.0 which is nearer to the National Average (56.8). These districts are found in Upper Ganga Plain of Uttar Pradesh (24), West Bengal (10), Maharashtra and Punjab (9 each), central and eastern Gujarat and Mysore (7 each), Kerala (6), Madhya Pradesh (5), central and southern Bihar (4 each), Madras (3) and Assam, Jammu and Kashmir, Orissa and Rajasthan (2 each).

The ratios are low (45.0 and below) in 39 districts. These are found in some of the densely populated States of India, such as, Bihar (12), Assam and Uttar Pradesh (6 each), Mysore and Punjab (5 each), Maharashtra and West Bengal (2 each) and Gujarat (1).

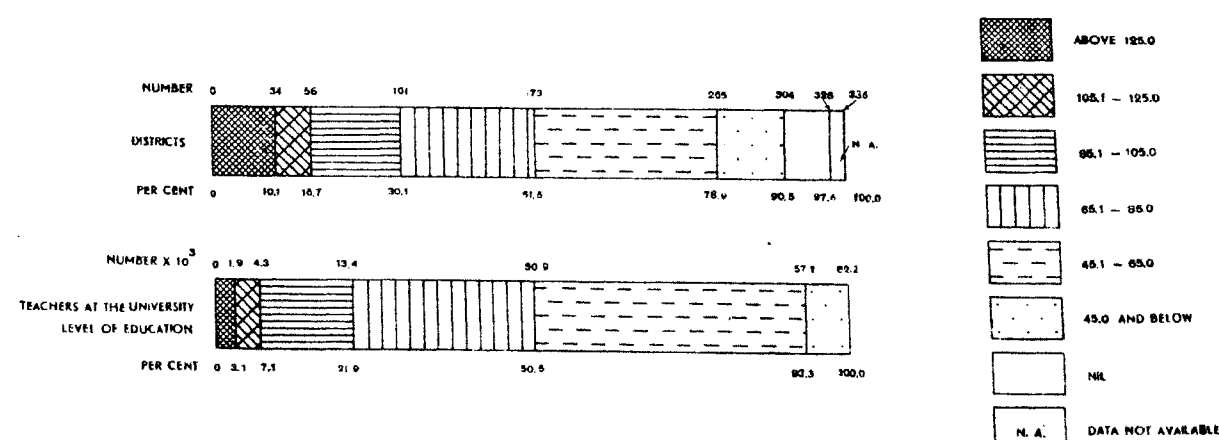
There are 24 districts in the country where educational facilities at University level are completely absent. These districts lie in areas which are inaccessible, such as, hill areas of Uttar Pradesh (10), Rajasthan desert (4), Gujarat (3), Jammu and Kashmir (2) and 1 each in Assam, Maharashtra and the Union Territories of Andaman and Nicobar Islands, Laccadive, Minicoy and Amindivi Islands and N.E.F.A.

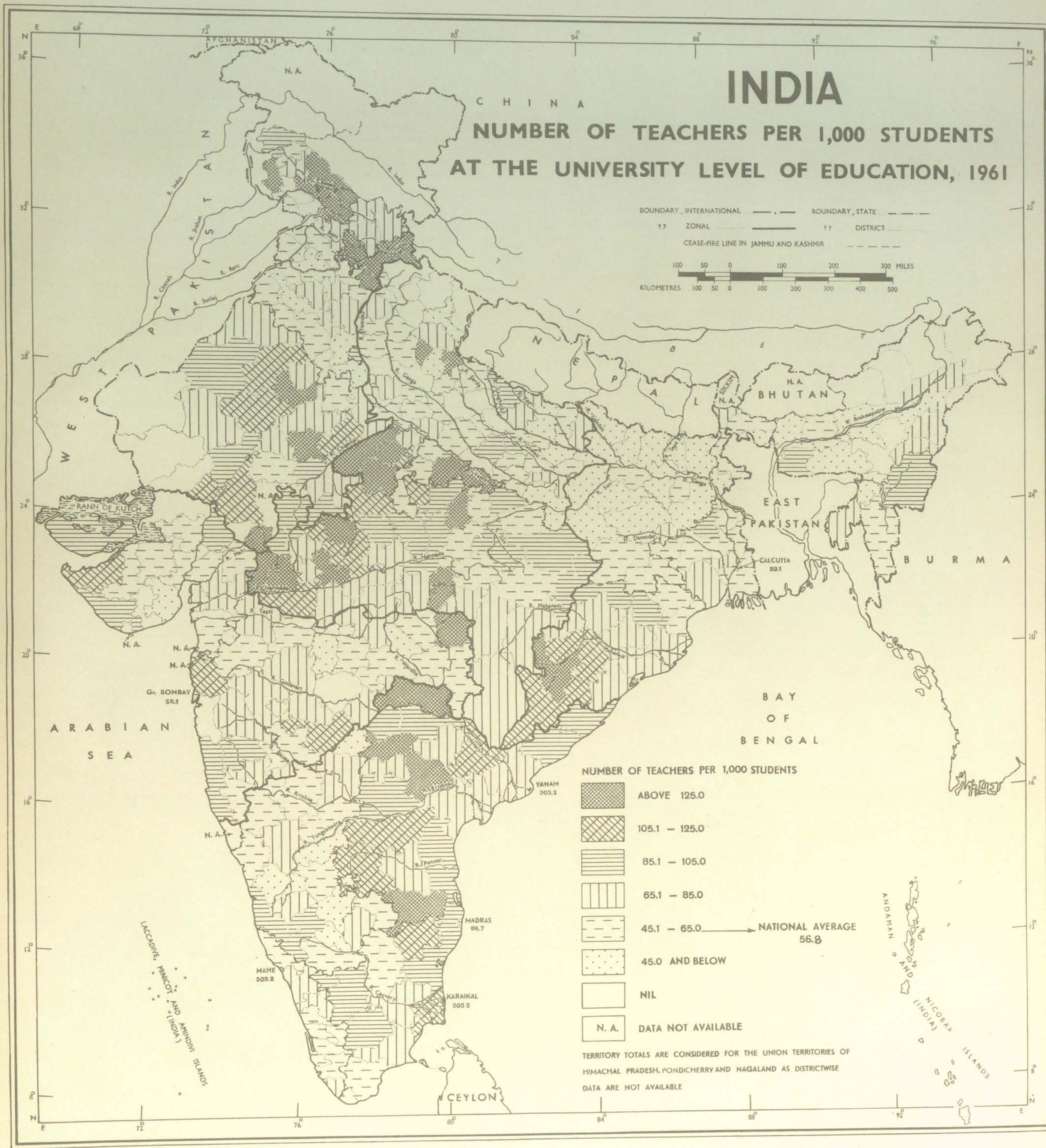
In general, the Western, Northern and Central Zones exhibit high teacher/student ratios while the Southern Zone shows moderately high teacher/student ratios. In Eastern Zone, the ratios are either nearer to or below the National Average.

Sl. No.	State/Union Territory	Students at the University level 1961	Teachers at the University level 1961	Teachers per 1,000 students at the University level 1961
1	2	3	4	5
	INDIA	1,096,593	62,229	56.8
	STATES			
1	Andhra Pradesh	57,653	4,799	83.2
2	Assam	27,837	1,253	45.0
3	Bihar	90,151	4,027	44.7
4	Gujarat	48,962	2,960	60.5
5	Jammu and Kashmir	8,122	596	64.8
6	Kerala	44,747	2,861	63.9
7	Madhya Pradesh	48,546	4,154	85.6
8	Madras	69,489	5,905	85.0
9	Maharashtra	110,365	6,792	61.5
10	Mysore	53,011	3,466	65.4
11	Orissa	14,096	1,051	74.6
12	Punjab	57,848	3,144	54.3
13	Rajasthan	32,337	2,667	82.8
14	Uttar Pradesh	112,509	6,836	60.8
15	West Bengal	139,877	8,348	59.7
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands		Nil	
2	Delhi	20,858	1,875	89.9
3	Himachal Pradesh	943	130	137.9
4	Laccadive, Minicoy and Amindivi Islands		Nil	
5	Manipur		176	87.4
6	Tripura	2,014	131	81.6
7	Dadra and Nagar Haveli	1,605	Not Available	
8	Goa, Daman and Diu		Not Available	
9	Pondicherry		124	303.2
10	North-East Frontier Agency	409	Nil	
11	Nagaland		4	76.9
12	SIKKIM	52	Not Available	

Note : i All-India and Union Territories figures have been taken from "Education in States, 1960-61" published by Ministry of Education, Government of India.
ii District and State figures have been taken from "Education in States, 1960-61" published by Education Commission.

Source : 1 Education in States, 1960-61, Education Commission.
2 Education in States, 1960-61, Ministry of Education, Government of India.





NUMBER OF TEACHERS OF ALL GRADES PER 100 SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS IN RURAL AREAS, 1961

Purpose : This map shows the availability of teachers of all grades per 100 schools and other educational institutions in rural areas in 1961.

Method : The districtwise data for teachers of all grades per 100 schools and other educational institutions in rural areas are used for this map. The data are grouped into five ranges—two above, one nearer to and two below the National Average (273) as shown in the legend of the map and these are represented by choropleth method. The districts for which data are not available are left blank and the entirely urban areas are shown by the abbreviation 'E.U.'

Salient Features : A glance at the map would reveal a lop-sided distribution of teachers of all grades per 100 schools and other educational institutions in rural areas of the country. However, the Southern Zone, the whole of mountainous region of N.E.F.A. and Manipur in the east; southern Punjab plains and a few districts of Rajasthan and Madhya Pradesh show relatively higher proportion of teachers per 100 schools and other educational institutions.

All the districts of Kerala excluding Kozhikode; Kanyakumari district in Madras State; Lucknow district in Uttar Pradesh and Mahe district of the Union Territory of Pondicherry fall in the highest range (above 566).

There are 79 districts in the next range (309—566) of which 17 lie in the Godavari-Krishna region which coincides with the northern parts of Telangana and Karnataka Plateaus; 19 in Uttar Pradesh; 10 in Punjab; 9

in Madras; 5 in Rajasthan; 8 in Madhya Pradesh and 2 in the southern Karnataka region, forest-clad hill areas of N.E.F.A., Nagaland, Manipur, Bhandara district of Maharashtra, Howrah district of West Bengal, Bilaspur district of Himachal Pradesh, Kozhikode district of Kerala and the Union Territory of Delhi also fall in this range.

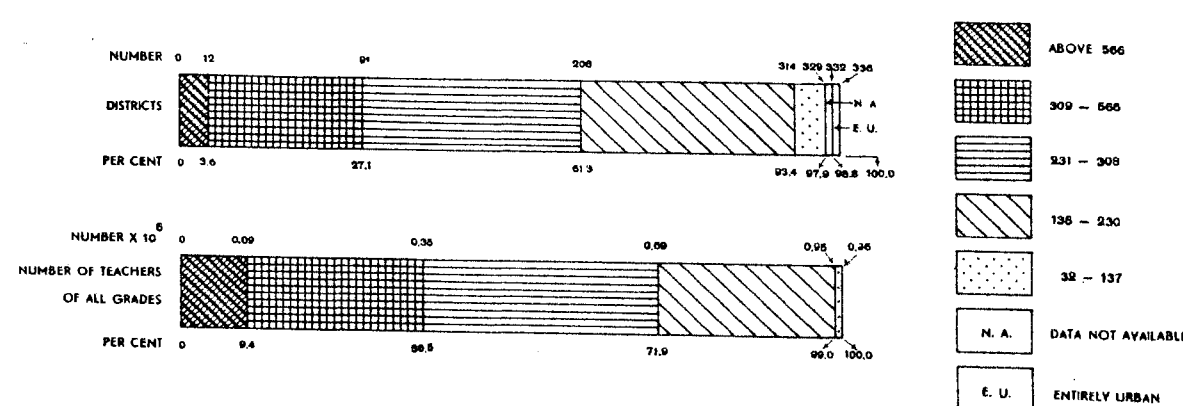
In the next range (231—308), which is nearer to the National Average (273), fall 25 districts each of Madhya Pradesh and Uttar Pradesh, 4 districts of Himachal Pradesh, 9 districts of Rajasthan, 8 districts of Bihar, 4 districts of Rayalaseema Region and 2 districts of the Brahmaputra Valley. A few pockets lying in the rain-shadow region of Maharashtra, the lower Hooghly Basin of West Bengal, a few districts in the eastern coast, 2 contiguous districts, i.e., Bangalore and Mandya in Mysore and Salem in Madras also fall in this range.

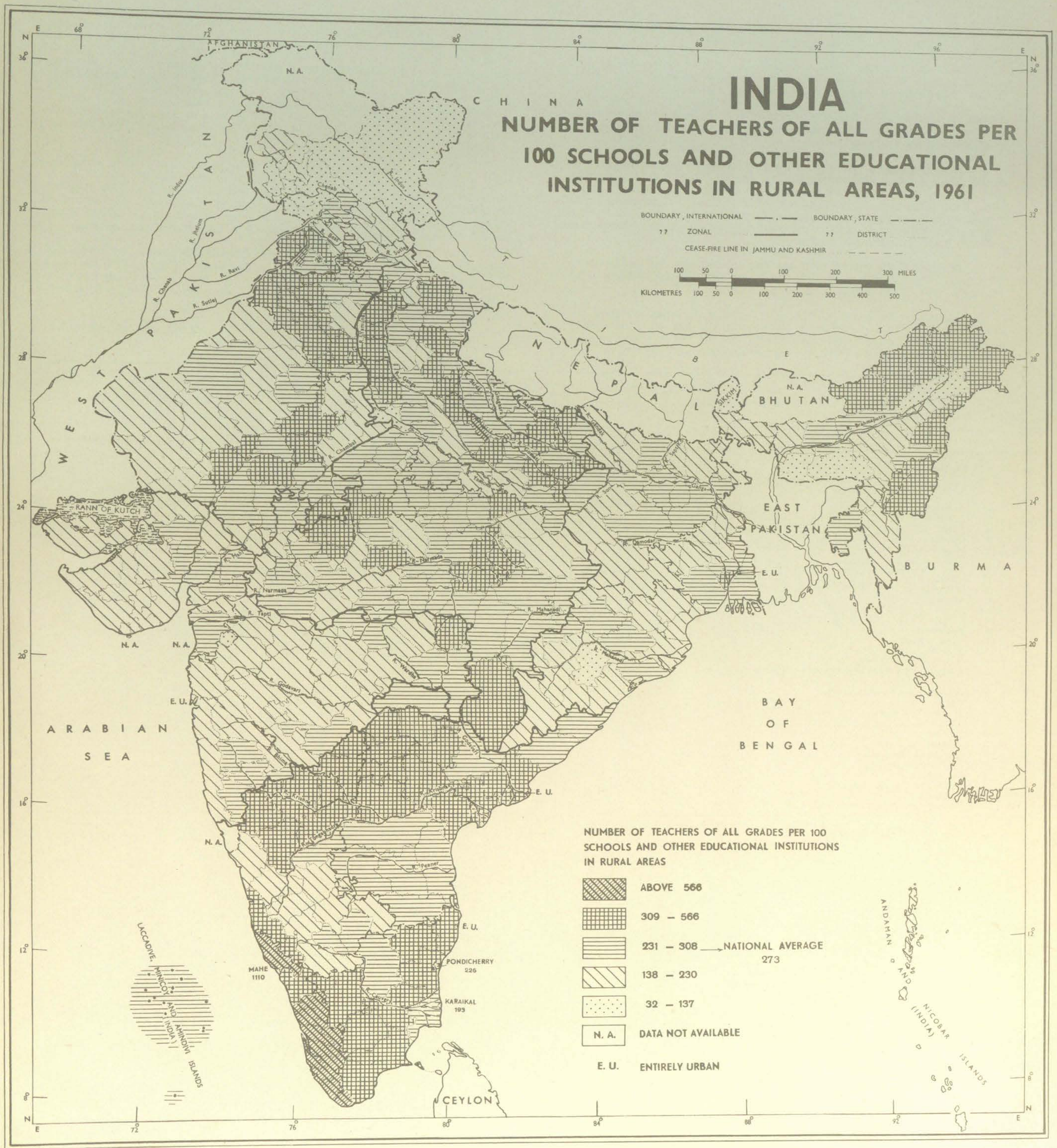
A large part of Maharashtra, western Rajasthan, South-western portion of Karnataka, the *Rarh* tracts and *Duars* areas of West Bengal, a crescent-shaped area of Assam starting from Sibsagar to Mizo Hills and the Plateau Regions of Orissa and Bihar fall in the fourth range (138—230).

In the lowest range (32—137) come 15 districts which are distributed in the snow-capped mountainous region of Jammu and Kashmir; the Upper Brahmaputra Valley (Lakhimpur), Garo Hills and the Shillong Plateau in Assam, Agra district in Uttar Pradesh, Baudh-Khondmals district in Orissa and Sikkim. The data for teachers of all grades per 100 schools and educational institutions in rural areas are not available for Goa, Daman and Diu.

Sl. No.	State/Union Territory	Number of schools and other educational institutions including training classes, coaching and shop classes 1961	Number of teachers 1961	Number of teachers per 100 schools and other institutions etc. 1961
1	2	3	4	5
	INDIA	350,878	957,751	273
	STATES			
1	Andhra Pradesh	25,836	81,623	316
2	Assam	19,751	35,674	181
3	Bihar	39,096	91,712	235
4	Gujarat	20,020	45,956	230
5	Jammu and Kashmir	4,388	3,823	87
6	Kerala	13,004	99,315	764
7	Madhya Pradesh	23,390	63,998	274
8	Madras	22,291	79,649	355
9	Maharashtra	40,190	87,153	217
10	Mysore	20,191	51,522	255
11	Orissa	20,510	42,470	207
12	Punjab	11,209	35,916	320
13	Rajasthan	12,551	31,178	248
14	Uttar Pradesh	37,673	110,787	294
15	West Bengal	34,781	79,127	228
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	78	129	165
2	Delhi	242	1,186	490
3	Himachal Pradesh	1,487	4,325	291
4	Laccadive, Minicoy and Amindivi Islands	39	120	308
5	Manipur	1,939	6,276	324
6	Tripura	1,303	3,394	260
7	Dadra and Nagar Haveli	57	124	218
8	Goa, Daman and Diu		Not Available	
9	Pondicherry	306	748	244
10	North-East Frontier Agency	55	271	493
11	Nagaland	323	1,106	342
12	SIKKIM	168	169	101

Source : 1 Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.
2 Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.





NUMBER OF TEACHERS PER 1,000 OF POPULATION IN RURAL AREAS, 1961

Purpose : This map shows the availability of teachers per 1,000 of population in each of the districts in rural areas in 1961.

Method : The map is drawn by choropleth method to show the district-wise distribution of teachers per 1,000 of population in rural areas of the country. Four different shades have been selected for four classes in descending order, i.e., 7—10, 4—6, 3 and 1—2 as shown in the legend to the map. The districts showing negligible figures are marked by 'N' whereas the entirely urban areas are shown by the abbreviation 'E.U.' Certain areas are left blank for which data are not available.

Salient Features : A glance at the map reveals the regional disparity in distribution of teachers in rural areas of the country. It is worthnoticing that the number of teachers per 1,000 of population is more in the sparsely populated Purvanchala hill areas (Manipur, Mizo Hills in Assam and western Nagaland), the Punjab and Kumaun Himalayan Regions in the north and the Brahmaputra Valley in the east. The south-west coastal State of Kerala has relatively higher proportion of teachers.

Manipur at the extreme north-east and densely populated coastal plains of Kerala, Nilgiri district of Madras and Mahe district of Pondicherry in the extreme south-west fall in the highest range (7—10).

In the next high range (4—6) lay the Brahmaputra Valley in Assam, hill districts of Uttar Pradesh and Punjab, some coastal districts and a few inland districts. The 3 districts of Brahmaputra Valley (Kamrup, Darrang and Sibsagar), 2 districts of hilly Nagaland (Mokokchung and Kohima), 5 hill districts of Uttar

Pradesh (Dehra Dun, Garhwal, Naini Tal, Chamoli and Pithoragarh), 2 districts of Himachal Pradesh (Mahasu and Mandi) and the Mizo Hills district in southern Assam also fall under this range. A few districts along the west coast (3 in Gujarat, 4 in Maharashtra and 3 each in Mysore and Kerala) stretching from Gujarat Plains to Trivandrum, some isolated pockets in the east coast, such as, the Vaigai Basin, the Krishna-Godavari deltas and the lower Hooghly Valley, the 3 interior districts of Maharashtra (Amravati, Akola and Wardha), the Raissen district in Madhya Pradesh, Dhenkanal and Balasore districts of Orissa and the Union Territories of Laccadive, Minicoy and Amindivi Islands and Delhi also show proportion of teachers per 1,000 of population ranging between 4 and 6.

A large number of interior districts of the Deccan Plateau stretching from Dhulia district in the north to Madurai district in the south (25), 9 districts of Gujarat State, 5 in the coastal fringe of Madras, 6 in Andhra Pradesh, 5 in Orissa, the lower Hooghly Basin in West Bengal, 15 districts of Madhya Pradesh and a strip of area (3 districts) in the central part of Rajasthan have 3 teachers per 1,000 of population which is also the National Average.

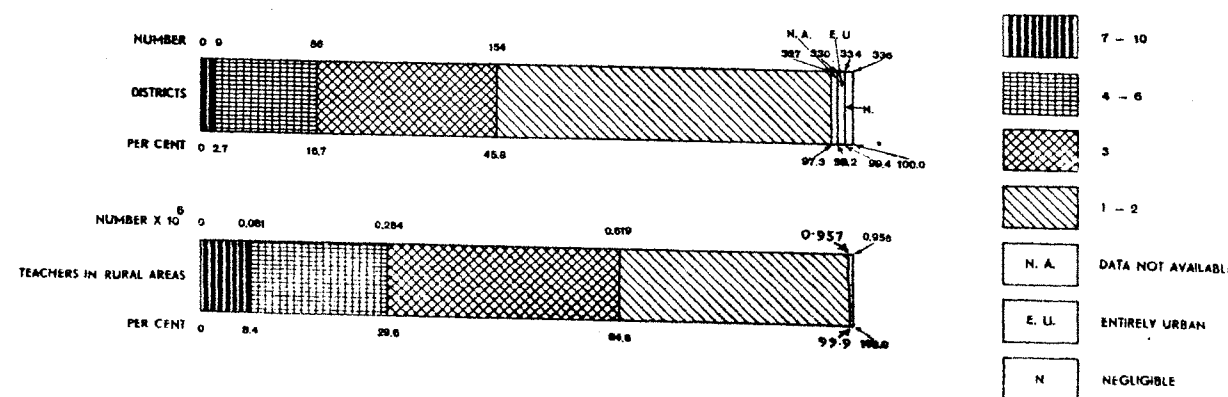
173 districts or more than 50% districts in the country fall under the lowest range (1—2 teachers per 1,000 of population). They are mostly concentrated in the States of Jammu and Kashmir (8), Punjab (12), Rajasthan (23), Uttar Pradesh (45), Bihar (12), eastern and western parts of Madhya Pradesh (27) and northern districts of Andhra Pradesh (10).

The rural areas of Poonch in Jammu and Kashmir and Agra district in Uttar Pradesh have negligible proportion of teachers.

Sl. No.	State/Union Territory	Rural population 1961	Number of teachers 1961	Number of teachers per 1,000 of population 1961
1	2	3	4	5
	INDIA*	360,298,168	957,751	3
	STATES			
1	Andhra Pradesh	29,708,939	81,623	3
2	Assam	10,959,744	35,674	3
3	Bihar	42,541,690	91,712	2
4	Gujarat	15,316,726	45,956	3
5	Jammu and Kashmir	2,967,661	3,823	2
6	Kerala	14,349,574	99,315	7
7	Madhya Pradesh	27,745,174	63,998	2
8	Madras	24,696,425	79,649	3
9	Maharashtra	28,391,157	87,153	3
10	Mysore	18,320,279	51,522	3
11	Orissa	16,439,196	42,470	3
12	Punjab	16,218,217	35,916	2
13	Rajasthan	16,874,124	31,178	2
14	Uttar Pradesh	64,266,506	110,787	2
15	West Bengal	26,385,437	79,127	3
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	49,473	129	3
2	Delhi	299,204	1,186	4
3	Himachal Pradesh	1,287,216	4,325	3
4	Laccadive, Minicoy and Amindivi Islands	24,108	120	5
5	Manipur	712,320	6,276	9
6	Tripura	1,039,008	3,394	3
7	Dadra and Nagar Haveli	57,963	124	2
8	Goa, Daman and Diu	526,003	Not Available	
9	Pondicherry	280,082	748	3
10	North-East Frontier Agency	336,558	271	1
11	Nagaland	350,043	1,106	3
12	Sikkim	155,341	169	1

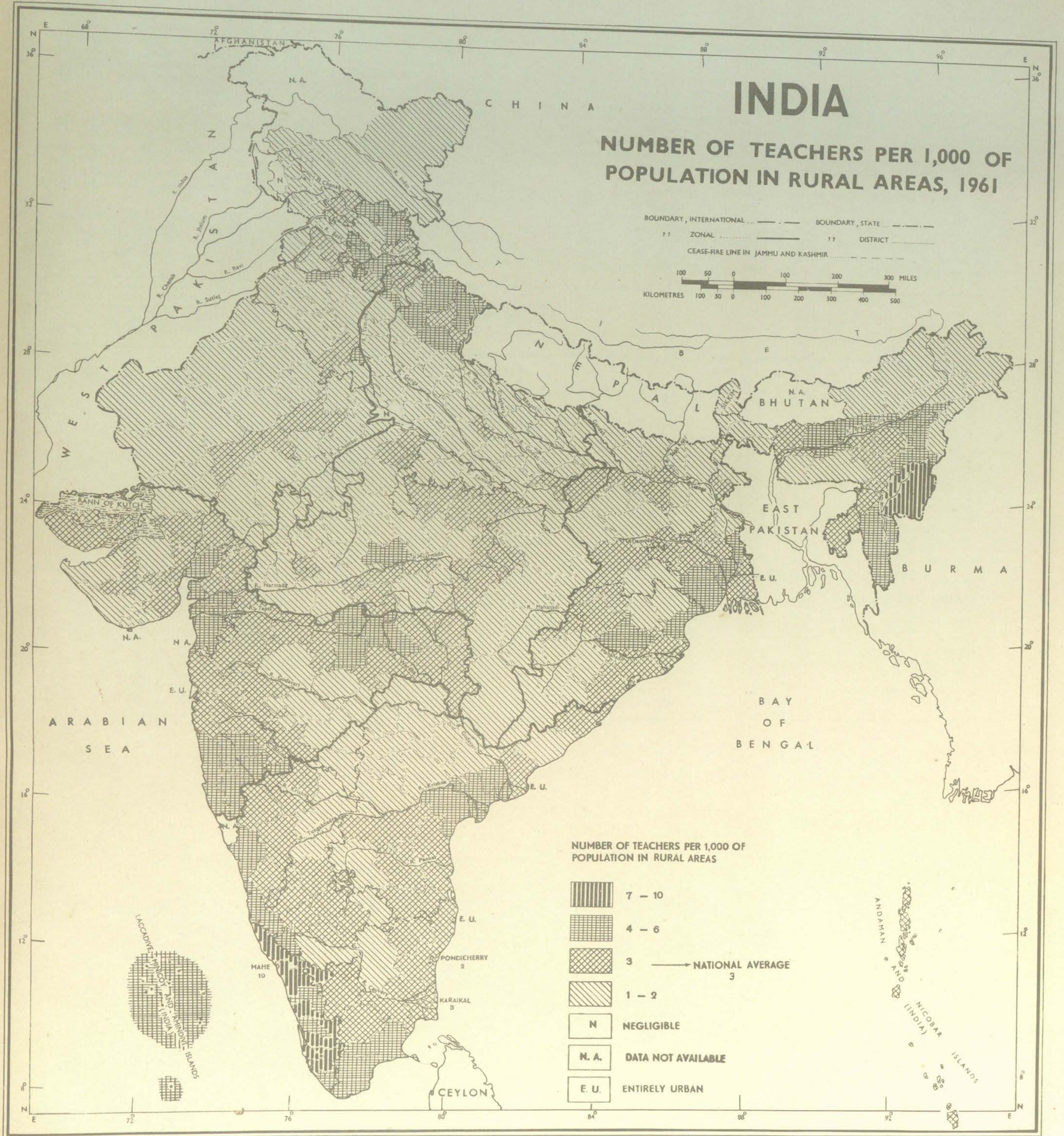
* National Average has been calculated after excluding the figures of Goa, Daman and Diu for which the data relating to number of teachers are not available.

Source : 1 Census of India, 1961, Vol. I, India, Part II-A(i)—General Population Tables.
2 Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.



INDIA

NUMBER OF TEACHERS PER 1,000 OF
POPULATION IN RURAL AREAS, 1961



SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS
INCLUDING TRAINING CLASSES, COACHING AND
SHOP-CLASSES PER 1,000 OF TOTAL CENSUS
HOUSES IN RURAL AREAS, 1961

Purpose : The map depicts the regional variation in the distribution of Census houses used as schools and other educational institutions including training classes, coaching and shop-classes per 1,000 of total Census houses in rural areas in 1961.

Method : The data for Census houses used as schools and other educational and training institutions are grouped into three broad categories—one above (above 5), one nearer to (4 to 5) and one below (3 and below) the National Average (4). The districts are then shaded by three different grades of hatching, deep to light, corresponding to ranges from high to low. For areas for which data are not available and which are entirely urban the abbreviations 'N.A.' and 'E.U.' respectively have been used.

Salient Features : There are in all 61 districts in the highest range (more than 5). Most of these districts are located in 5 distinct areas. The most extensive and compact region is formed in the eastern part of the country embracing all the districts of Assam and North-East Frontier Agency, Kohima in Nagaland and the Union Territories of Manipur and Tripura. These areas have relatively lesser number of Census houses (density of population being low) and, therefore, the indices have gone up. The same reason

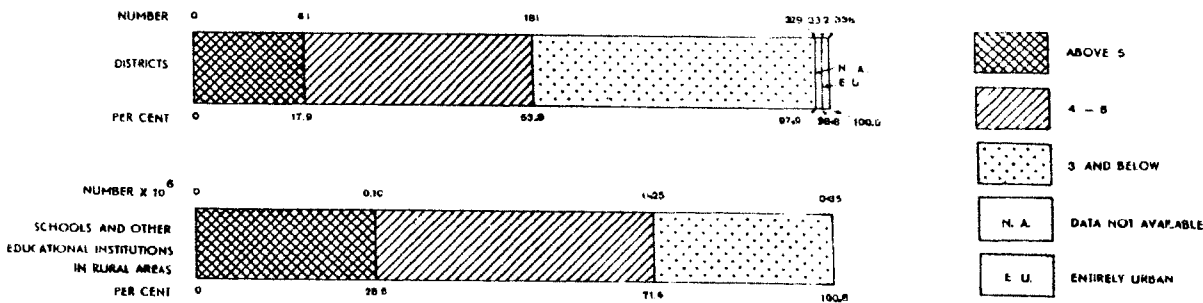
is to be attributed for the high proportion in Ladakh, Lahaul and Spiti in the north and Andaman and Nicobar Islands in the south. The other areas falling in this range roughly coincide with the industrial belt of Maharashtra (11), south-western districts of Mysore (7) and northern plains of Kerala (2). Besides 7 districts of Orissa; Midnapore, Hooghly, Bankura, Malda and Darjeeling districts of West Bengal and Patna, Monghyr and Bhagalpur districts of Bihar also have higher number of schools and other educational institutions.

The 120 districts in the medium range (4 to 5) lay mainly in the Coromandel coast (12), Rayalaseema area (4), Kerala coast (5), the Chotanagpur Plateau region (8), north Bihar plains (6), Hooghly Basin in West Bengal (6), Gujarat (13), western Rajasthan (5), eastern Rajasthan (3), Maharashtra (9), Madhya Pradesh (13), Mysore (7), Uttar Pradesh (5), Himachal Pradesh (1), Jammu and Kashmir (5) and Sikkim (1). Other districts are mostly scattered.

In the lowest range (3 and below) come 79 districts of the Central Zone, 42 of Northern Zone, 10 districts of Andhra Pradesh, 5 of Mysore, 2 of Kerala and 3 of Madras in the Southern Zone and 5 districts of Maharashtra in the Western Zone. In all, there are 148 districts falling under this category.

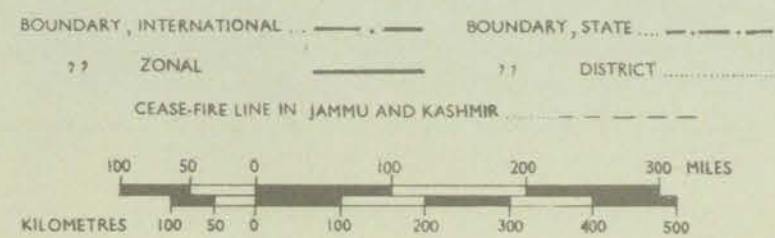
Sl. No.	State/Union Territory	Number of Census houses in rural areas 1961	Schools and other educational institutions including training classes and shop-classes in rural areas 1961	Schools and other institutions etc., per 1,000 of Census houses in rural areas 1961
1	2	3	4	5
INDIA				
	...	89,019,325	350,878	4
STATES				
1	Andhra Pradesh	7,379,735	25,836	4
2	Assam	2,151,615	19,751	9
3	Bihar	7,939,920	39,096	5
4	Gujarat	3,963,807	20,020	5
5	Jammu and Kashmir	1,109,408	4,338	4
6	Kerala	2,873,082	13,004	5
7	Madhya Pradesh	7,742,676	23,390	3
8	Madras	5,835,929	22,291	4
9	Maharashtra	8,360,329	40,190	5
10	Mysore	4,390,623	20,191	5
11	Orissa	3,437,840	20,510	6
12	Punjab	4,161,300	11,209	3
13	Rajasthan	4,261,862	12,551	3
14	Uttar Pradesh	17,550,837	37,673	2
15	West Bengal	6,755,302	34,781	5
UNION TERRITORIES AND OTHER AREAS				
1	Andaman and Nicobar Islands	10,456	78	7
2	Delhi	67,278	242	4
3	Himachal Pradesh	469,448	1,487	3
4	Laccadive, Minicoy and Amindivi Islands	5,718	39	7
5	Manipur	177,344	1,939	11
6	Tripura	181,756	1,303	7
7	Dadra and Nagar Haveli	13,327	57	4
8	Goa, Daman and Diu	...	Not Available	...
9	Pondicherry	64,579	306	5
10	North-East Frontier Agency	4,156	55	13
11	Nagaland	80,193	323	4
12	SIKKIM	30,805	168	5

Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.

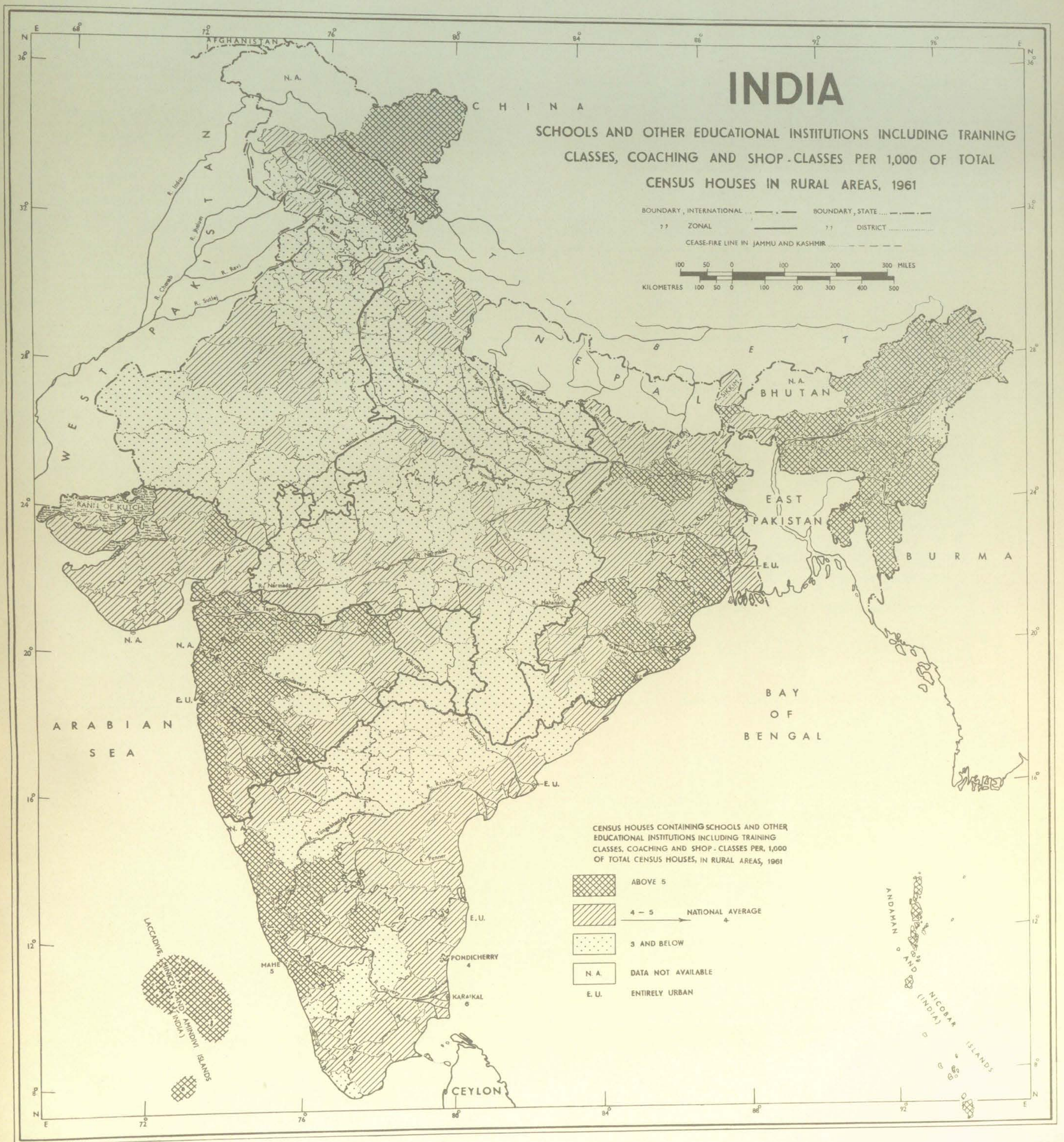
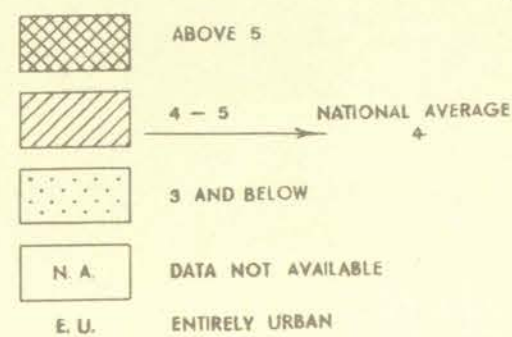


INDIA

SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS INCLUDING TRAINING CLASSES, COACHING AND SHOP-CLASSES PER 1,000 OF TOTAL CENSUS HOUSES IN RURAL AREAS, 1961



CENSUS HOUSES CONTAINING SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS INCLUDING TRAINING CLASSES, COACHING AND SHOP-CLASSES PER 1,000 OF TOTAL CENSUS HOUSES, IN RURAL AREAS, 1961



**SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS
INCLUDING TRAINING CLASSES, COACHING AND SHOP-
CLASSES PER 1,000 OF TOTAL CENSUS HOUSES IN URBAN
AREAS, 1961**

Purpose : This map seeks to show the regional variations of distribution of Census houses used as schools and other educational institutions including training classes, coaching and shop-classes per 1,000 of total Census houses in Urban areas in 1961.

Method : Choropleth method has been adopted to show the districtwise distribution of houses used as schools and other educational institutions per 1,000 of Census houses in urban areas. Census house in 1961 was defined as a structure or part of a structure inhabited or vacant or a dwelling, a shop, a shop-cum-dwelling or a place of business, workshop, school etc., with a separate entrance. The data for Census houses used for schools and other educational institutions are grouped into three ranges, one above, one nearer to and one below the National Average (4). The districts are then shaded by three different grades as shown in the legend of the map.

Salient Features : The map reveals the uneven distribution of schools and other educational institutions in the country and hardly any pattern

in their distribution is discernible. Some of the districts in the Eastern Zone and in the narrow belt starting from Baramulla in Jammu and Kashmir to Almora district in Uttar Pradesh have, in general, high incidence of houses used as schools and other educational institutions.

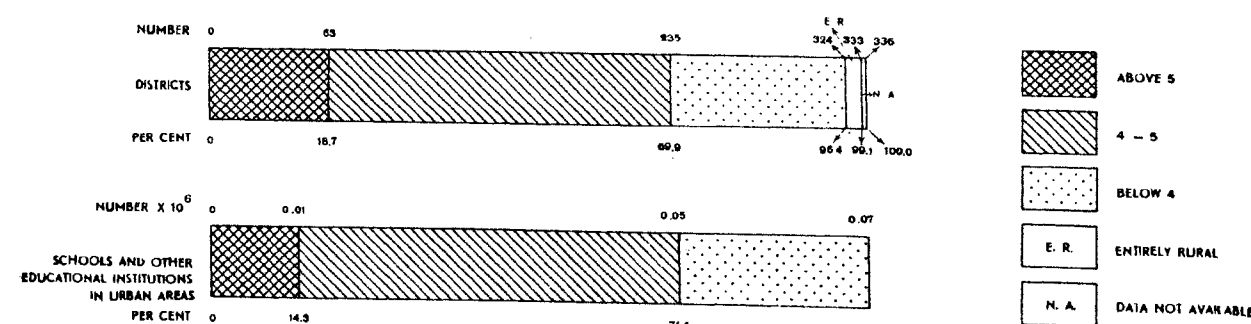
The number of houses used as schools etc. per 1,000 of Census houses exceeds 5 in 63 districts. Most of these lay in the northern and eastern parts.

There are 172 districts which lay in the range 4 to 5 Census houses used as schools etc. per 1,000 of Census houses. More than 50 per cent of these are concentrated in the Western Zone (33 districts) and the Southern Zone (45 districts).

In 89 districts of the country, the proportions of houses used as educational institutions are in the lowest range, i.e., below 4. These are located in the Punjab plains (13), Rajasthan (11), Uttar Pradesh (11), Madhya Pradesh (27), Gujarat (4), Madras (5), Orissa (3), Mysore (4), West Bengal (3), Andhra Pradesh (4), Maharashtra (2) and Himachal Pradesh (2).

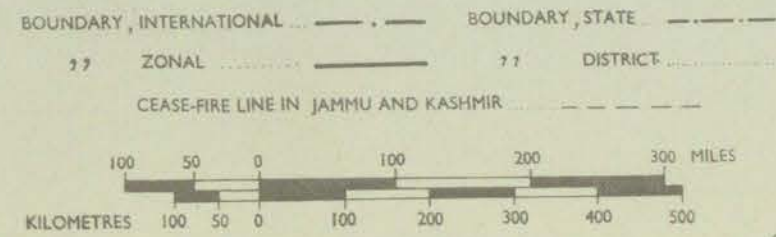
Sl. No	State/Union Territory	Number of Census houses in urban areas 1961	Schools and other educational institutions including training classes and shop-classes in urban areas 1961	Schools and other institutions etc. per 1,000 of Census houses in urban areas 1961
1	2	3	4	5
	INDIA	18,837,712	74,592	4
	STATES			
1	Andhra Pradesh	1,378,650	5,733	4
2	Assam	213,032	1,170	5
3	Bihar	801,863	4,229	5
4	Gujarat	1,469,587	5,614	4
5	Jammu and Kashmir	204,551	2,018	10
6	Kerala	507,387	2,399	5
7	Madhya Pradesh	1,231,376	3,887	3
8	Madras	1,963,745	7,018	4
9	Maharashtra	2,769,307	11,221	4
10	Mysore	1,260,430	5,649	4
11	Orissa	264,885	1,238	5
12	Punjab	1,115,174	3,742	3
13	Rajasthan	923,099	3,481	4
14	Uttar Pradesh	2,179,599	8,383	4
15	West Bengal	2,039,360	7,142	4
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	3,397	21	6
2	Delhi	130,250	1,164	3
3	Himachal Pradesh	19,893	104	5
4	Laccadive, Minicoy and Amindivi Islands		Entirely Rural	
5	Manipur	19,991	118	6
6	Tripura	16,479	90	5
7	Dadra and Nagar Haveli		Entirely Rural	
8	Goa, Daman and Diu		Not Available	
9	Pondicherry	19,471	131	7
10	North-East Frontier Agency		Entirely Rural	
11	Nagaland	4,274	27	6
12	SIKKIM	1,912	13	7

Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.

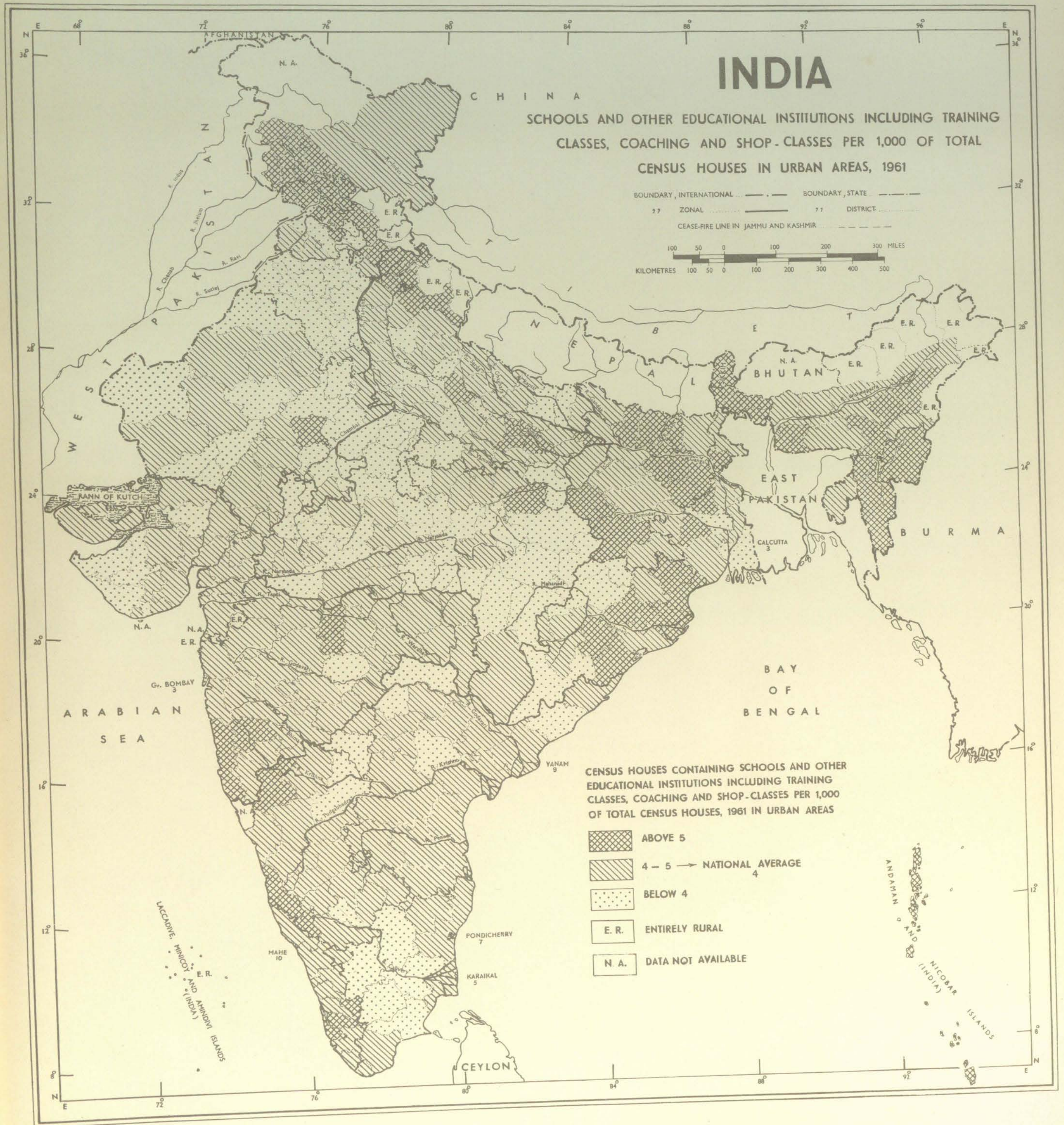
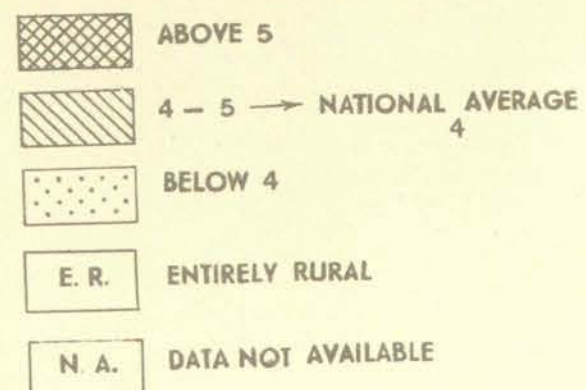


INDIA

SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS INCLUDING TRAINING CLASSES, COACHING AND SHOP-CLASSES PER 1,000 OF TOTAL CENSUS HOUSES IN URBAN AREAS, 1961



CENSUS HOUSES CONTAINING SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS INCLUDING TRAINING CLASSES, COACHING AND SHOP-CLASSES PER 1,000 OF TOTAL CENSUS HOUSES, 1961 IN URBAN AREAS



Housing

DISTRIBUTION OF HOUSE TYPES, 1961

Purpose : This map depicts some of the common rural house types and their regional variations in different parts of the country.

Method : The house types are presented pictorially in this map by drawing the sketches of the most common house types of a particular region on the basis of selected photographs taken by the officials of the Registrar General's Office in course of field work. The background flat colours roughly indicate the predominant wall materials as shown in the index to the map. In this map the depiction of house types is confined to shape, size, forms, layout and building materials of the rural houses.

Salient Features : This map reveals that the house types vary according to the physical, economic and socio-cultural conditions and on the availability of housing materials from region to region. Factors like climate, topography, water table, geology etc. have also great impact on the selection of building materials, determination of site, size and shape of the house and the material of roof of the house.

According to 1961 Census, mud has been used as wall material in about 56.89% of the Census houses in rural areas and 46.03% used grass/leaves/reeds/thatch as roof materials.

In the highly rain-fed areas of Assam, sub-Himalayan districts of Bihar, Manipur, Tripura, Nagaland, N.E.F.A., Andaman and Nicobar Islands and Sikkim the availability of grass/leaves/reeds/bamboos etc. has led to the use of these vegetative materials for wall and roof. The houses are rectangular in shape having walls of bamboo-mats or reeds plastered with mud and their roofs are thatched with various kinds of grass and leaves set in bamboo frames in slanting manner to shed off rainfall. In the areas of heavy rainfall and hilly and forested areas, the houses are often built on raised platforms of bamboos or woods for the protection against flood or inundation and also against wild animals.

Houses with mud walls and tiled roofs are common in the eastern part of Madhya Pradesh, Uttar Pradesh, south-western part of Bihar and Gujarat plain. The entire east coast region together with its contiguous districts stretching from Bhagirathi Delta down to Cape Comorin, the *Terai* region of Uttar Pradesh and Bihar and east Rajasthan plain show a marked preference to mud walls with thatched roofs. Socio-economic factors other than physical conditions govern the designing and layouts of these houses. The rectangular mud-plinth houses with walls of bamboo-mats and thatched inclined roofs may be compared to the conical huts of 'Yenadis'. The agricultural and other labourers in Andhra Pradesh have very steep roof of Palmyra thatch only to resist the cyclonic weather. A distinct change in house types is discernible in Krishna-Godavari deltas where the standard of living is comparatively better. Here the houses are rectangular in shape with mud walls and thatched roofs of paddy straws.

The houses are built of stone walls in the Aravalli Hills and its foreland areas particularly in western Rajasthan and in the western part of Saurashtra and Kutch, in south-central Peninsular Plateau (embracing Maharashtra Plateau, northern part of Karnataka Plateau and Rayalaseema Plateau) and in the north-western Himalayas. The dominant factor in selection of stones as building materials in these areas is the enormous reserves of building stones. The stone houses in Rajasthan are thatched with corn-stalks or various kinds

of grass in some areas (stone roofs are also very common) and those in Saurashtra and Maharashtra have tiled roofs. In Himalayan region, the houses are built of limestones and sandstones and covered with roofs of slates, shales and schists etc., but in Kashmir Valley houses are constructed of burnt/unburnt bricks and mud with wooden-chips or grass roofs. In the dry south-central part of the Southern Peninsula, the houses are built of stone walls with flat roofs of stone slabs supported by wooden rafts.

In the western part of Uttar Pradesh and Punjab Plain and its adjoining areas in Rajasthan, unburnt bricks are the common building materials used for the house construction. Burnt bricks are used for house construction mostly in developed villages. The roofs of these houses in the above areas are made of clay mixed with leaves and twigs or dried leaves supported by wooden beams or flat thatched roofs. These are flat topped square or rectangular in shape.

The houses made of cement and concrete are rare features in the rural areas but the public buildings like hospitals, schools and offices etc. are usually made of these materials. The industrial urban centres and the metropolitan cities and their adjoining districts show cemented concentration of concrete houses.

The rural house types in India are mostly unplanned and are reflections on man's adaptation on environment for construction of his shelters. These house types also reflect on the existing rural settlement pattern which, however, does not form the subject matter of this map. The map only indicates the form of the major rural house types and their micro-variations are not dealt with.

This brief account would be incomplete without a word of orientation. Elaborate tests and rituals still prevail in most parts of the country on the selection of a good site. There are propitious days on which the foundation should be laid and the first construction begin. There are also general rules regulating the direction a house must face to take the best ventilation. This matter of capturing the prevailing breeze in spring and summer and shutting out the wind in winter is of the utmost importance in urban housing, where modern housing colonies oddly enough neglect this vital consideration and build uncomfortable but superficially attractive complexes.

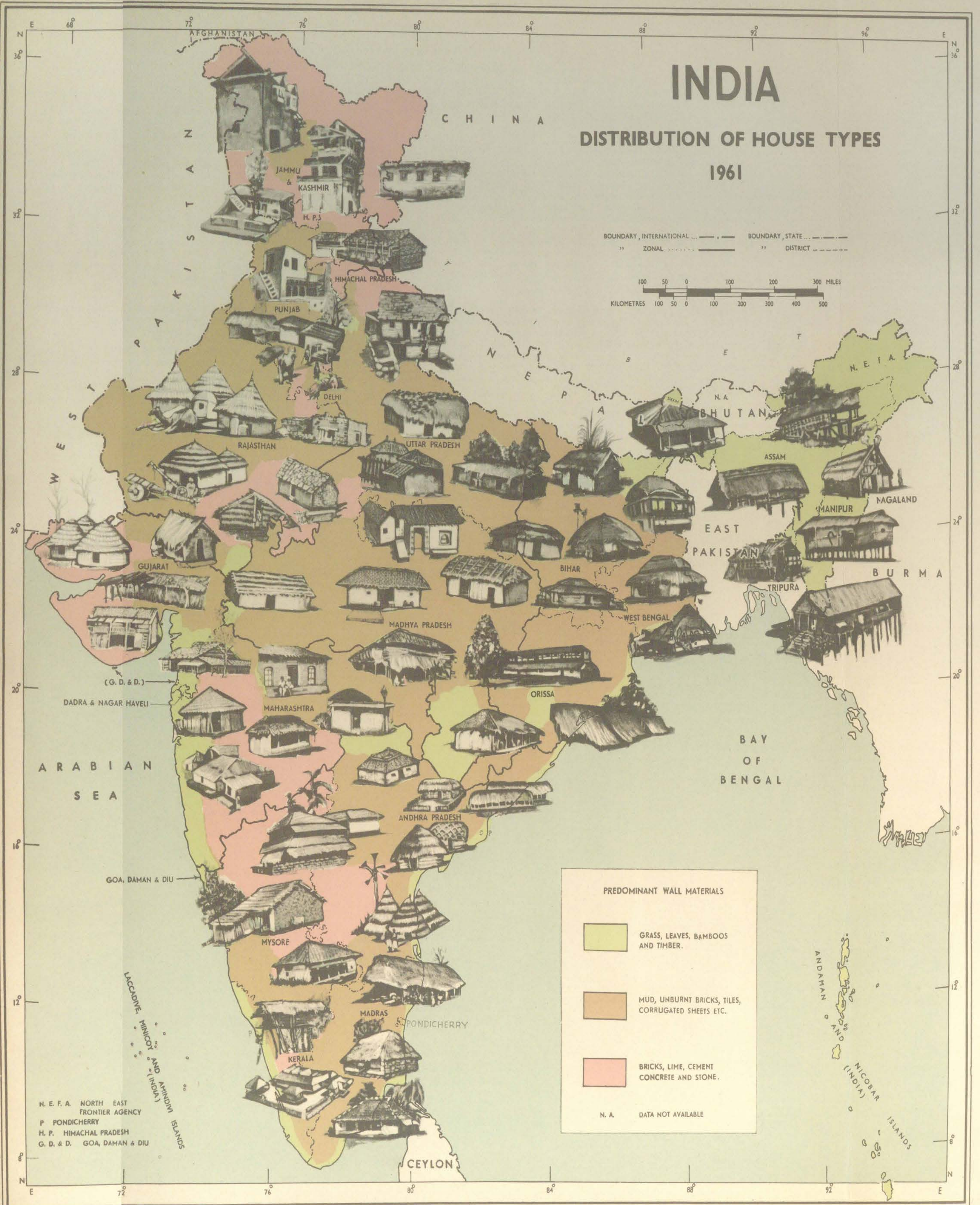
In traditional rural housing, however, the sun is more important than ventilation, except in the *Baithak* where men congregate for gossip. The house is, therefore, usually oriented to the sun and not to the prevailing breeze in spring and summer, although some consideration is paid to the latter. The main living room must invariably face towards the east so that the brightening eastern sky and the first rays of the sun may wake up the head of the household and hurry him to his field. The main living room faces the east as much, to get the beneficent morning sun, which serves a morning alarm, as to avoid the afternoon sun which is said to be scorching and unhealthy. There is the other desire, of course, to catch the south breeze through windows given on the south of the main living room and the eastern breeze in the covered verandah which invariably forms part of it. The *Baithak* must invariably face the prevailing breeze in spring and summer and allow for cross ventilation. The cow-shed must be so situated, whenever space permits, that its floor gets the rays of the western sun to dry up well and get rid of its odour.

Source : 1 Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.
2 Report on House types and Villages Settlement Patterns in India.

INDIA

DISTRIBUTION OF HOUSE TYPES

1961



PERCENTAGE OF RURAL POPULATION LIVING IN VILLAGES
ARRANGED BY NUMBER OF CENSUS HOUSES IN EACH, 1961

Purpose : This map shows the distribution of rural population living in villages classified by the number of Census houses in them as revealed by the 1961 Census.

Method : The villages are classified into seven categories according to the number of Census houses they contain, viz., i) 5 & below; ii) 6—15; iii) 16—25; iv) 26—35; v) 36—50; vi) 51—100 and vii) 101 and above. The percentages of population living in villages in the seven ranges of number of houses to the total rural population have been calculated and these are shown by bar graphs. Absolute figures on the top of each bar graph indicate the total rural population of each State and the Union Territory.

Salient Features : It will be seen that while 73.95% of India's rural population lives in villages containing more than 100 houses, a very insignificant proportion (0.11%) lives in villages with 5 houses and below. This is the general pattern of distribution of rural population in almost all the States and the Union Territories.

In all the States except Jammu and Kashmir, Madhya Pradesh and Orissa where the figures are low, more than 60.0% of the rural population lives in villages having more than 100 houses. It is interesting to note that in Kerala State, the entire rural population (14 millions) lives in villages with more than 100 houses. In the States of Madras and Andhra Pradesh and the Union Territories of Laccadive, Minicoy and Amindivi Islands and Goa, Daman and Diu, more than 90.0% of the rural population lives in villages having more than 100 houses.

The percentage share of rural population living in villages having

51—100 houses is relatively larger in Madhya Pradesh (27.4%), Orissa (25.9%), Jammu and Kashmir (25.9%), Rajasthan (22.8%), Assam (22.8%) and Uttar Pradesh (21.0%). Among the Union Territories, Andaman and Nicobar Islands (30.5%) ranks first followed by Himachal Pradesh (24.3%), Nagaland (20.9%) and Tripura (20.2%) in the said category.

In the next range (36—50 houses), the percentages of rural population are generally low (below 10.0%) in all the States and Union Territories except in Himachal Pradesh (15.2%) and Andaman and Nicobar Islands (11.5%).

The mountainous region of Himachal Pradesh has 13.9% of rural population living in villages falling in the next range (26—35 houses). The other areas have very low percentages of rural population living in villages having fewer houses. Out of 16 million rural folks of Orissa, only 5.1% of the people live in villages with 26—35 houses. Jammu and Kashmir comes next with 4.7% of its rural population in this range followed by Madhya Pradesh (4.5%) and Rajasthan (4.3%).

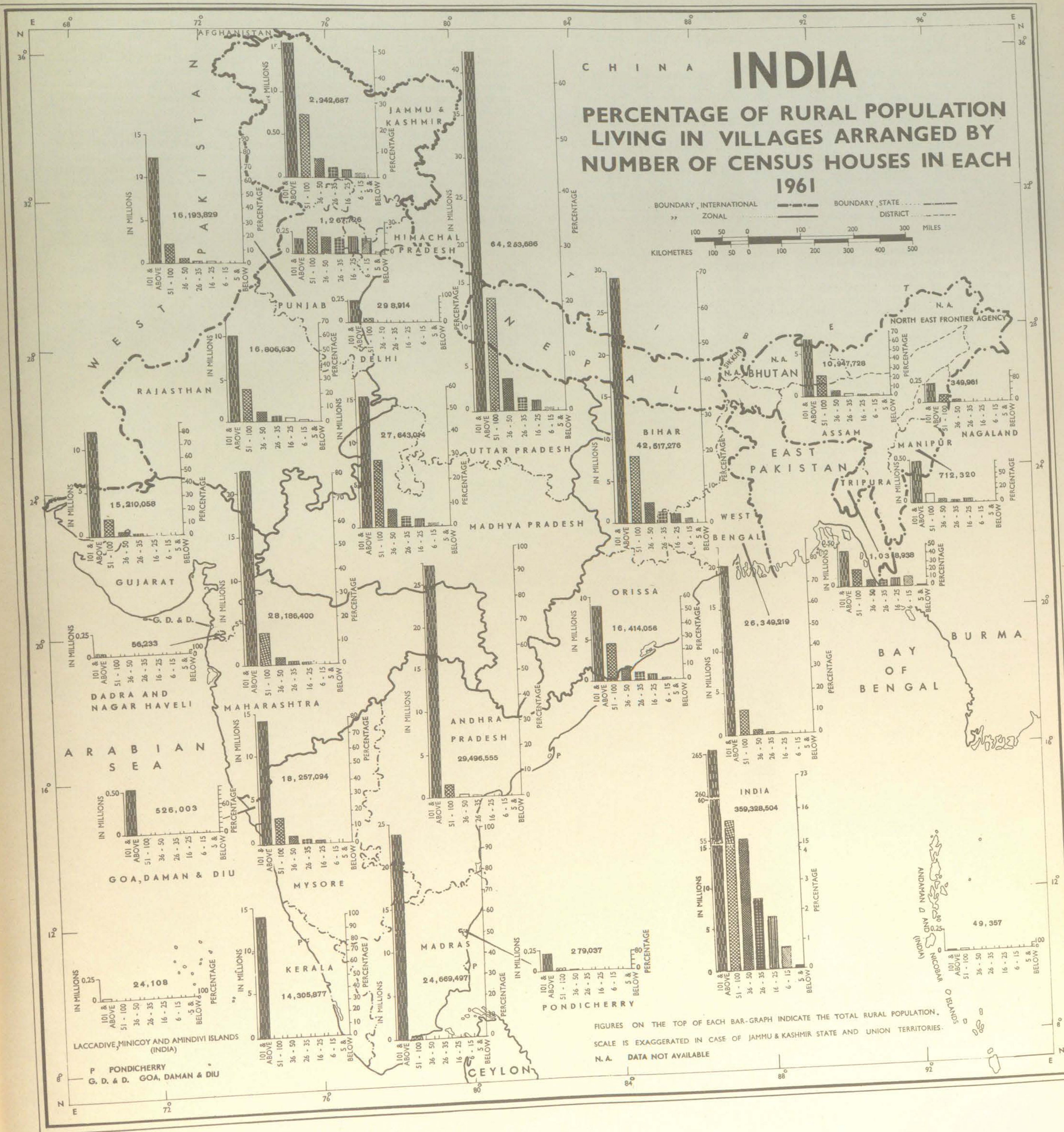
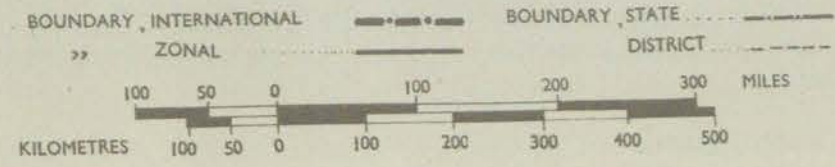
The four Union Territories, viz., Himachal Pradesh, Tripura, Andaman and Nicobar Islands and Manipur have quite large proportions of rural population living in villages containing 16 to 25 houses per village.

All the States and Union Territories except Himachal Pradesh and Tripura have very low percentages of rural population living in villages having 6 to 15 houses. The States of Kerala and Madras and the Union Territories of Laccadive, Minicoy and Amindivi Islands, Dadra and Nagar Haveli and Goa, Daman and Diu practically do not have any rural population living in villages of this category.

Source : Census of India, 1961, Vol. I, India, Part IV-A(i)—Housing Report.

INDIA

PERCENTAGE OF RURAL POPULATION LIVING IN VILLAGES ARRANGED BY NUMBER OF CENSUS HOUSES IN EACH 1961



PERCENTAGE OF RURAL HOUSEHOLDS OCCUPYING ONE,
TWO, THREE AND MORE THAN THREE ROOMS, 1961

Purpose : This map depicts the percentage distribution of rural households living in Census houses with one, two, three and more than three rooms in 1961. The relevant data were obtained at the time of houselisting operations for the 1961 Census.

Method : At the 1961 Census, 'household' was defined as a group of persons who commonly lived together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so. Rhombuses are drawn proportionate to the total number of rural households for each of the States/Union Territories. Households numbering less than 55,000 are shown by the uniform size of rhombuses. Each of these rhombuses is divided into 25 equal parts and each pocket thus represents 4 per cent of the total households. The pockets represent the households occupying one, two and three rooms and are shaded in brown from deep to light and then oriented with one, two and three dots respectively. The households occupying more than three rooms are shown by blue colour without any dot. No dot is placed in the rhombuses representing Jammu and Kashmir and the Union Territories but the various pockets are differentiated by respective colours.

Salient Features : In the States of Madras, Andhra Pradesh, Maharashtra, West Bengal and Gujarat and the Union Territories of Tripura, Pondicherry and Dadra and Nagar Haveli more than 65 per cent of the households occupy accommodations with one room, while 20 per cent to 30 per cent of households occupy two rooms accommodation. But the proportion of households living in three or more than three rooms is less than 15 per cent.

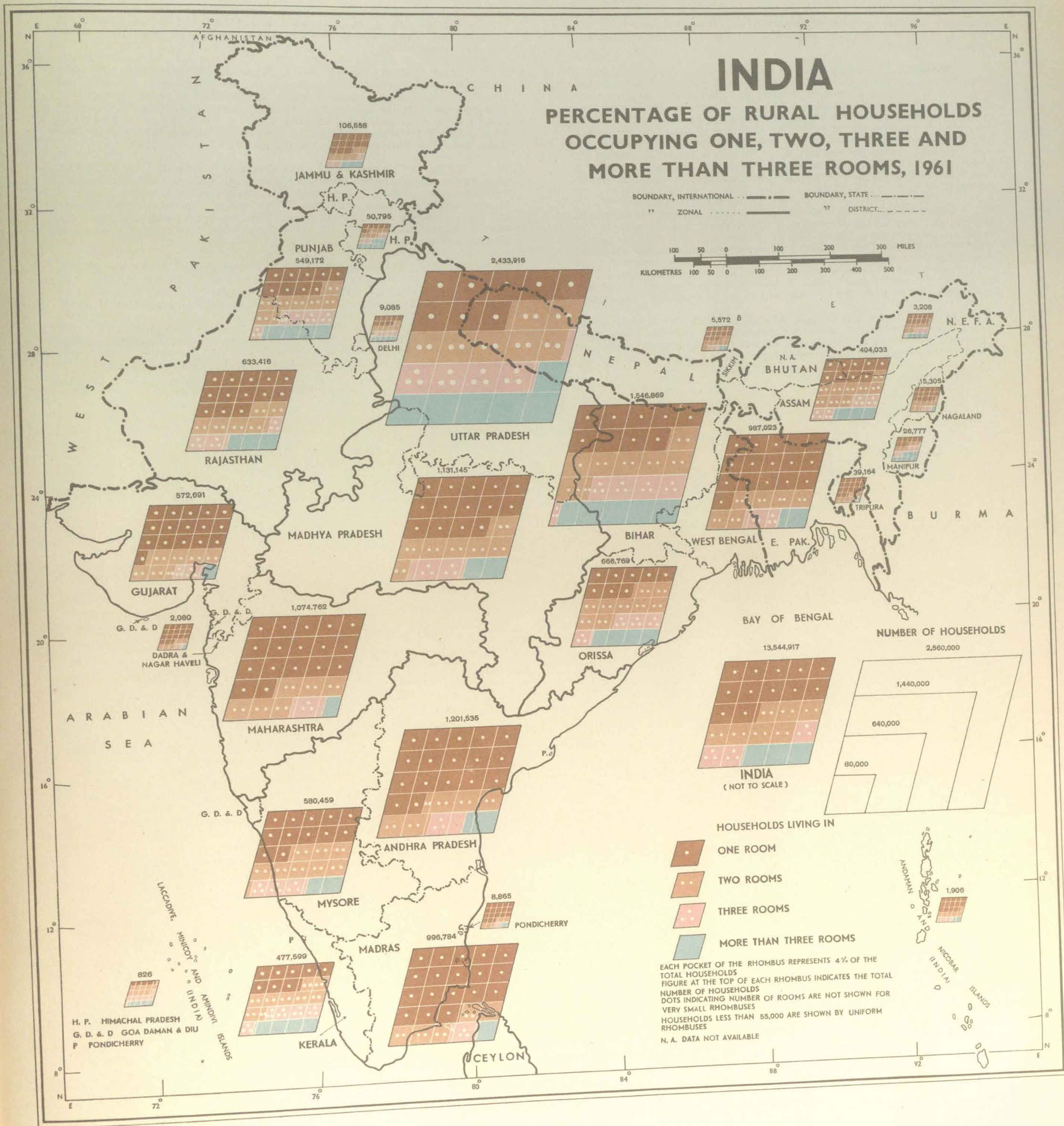
In the States of Rajasthan, Madhya Pradesh, Mysore, Jammu and

Kashmir, the Union Territories of Nagaland, Andaman and Nicobar Islands and Sikkim, the percentages of households occupying one room range from 50 to 55; households occupying two rooms from 25 to 35 and households living in three or more than three rooms from 18 to 25. The first three States represent a major part of the Peninsular Plateau, while the remaining areas occupy the forested hills and Islands. None of these areas can be said to be having very high density of population, on the other hand the local raw materials namely, grass, leaves, mud etc. are readily available in these areas for house construction.

The States of Kerala, Bihar, Orissa, Assam, Punjab and the Union Territories of Delhi, North-East Frontier Agency, and Laccadive, Minicoy and Amindivi Islands show moderate degree of congestion in housing conditions. Less than 35 per cent of households live in houses with one room, 35-40 per cent live in houses with two rooms and 15-20 per cent of households live in houses of three and more than three rooms. Traditionally, houses in Orissa and Kerala are commodious though economically they are not so well off. In Assam, N.E.F.A. and Laccadive, Minicoy and Amindivi Islands, the building materials are mostly extracted from local vegetation and are very cheap. So the houses have more rooms to live in. In Punjab, on the other hand, the better economic condition of the farmer who can afford to spend more for better living conditions has contributed to more number of rooms per household.

Uttar Pradesh, Himachal Pradesh and Manipur are the areas where more than 20 per cent of households live in houses with more than three rooms. Also these regions have less than 30 per cent of their households living in houses with one room.

Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.



PERCENTAGE OF URBAN HOUSEHOLDS OCCUPYING ONE, TWO,
THREE AND MORE THAN THREE ROOMS, 1961

Purpose : This map depicts the percentage distribution of urban households living in Census houses with one, two, three and more than three rooms in 1961. The data were obtained at the time of houselisting operations for the 1961 Census.

Method : Rhombuses are drawn proportionate to the total number of urban households for each of the States/Union Territories. Each of these rhombuses is divided into 25 equal pockets and each pocket thus represents 4 per cent of the total households. The households occupying one, two and three rooms are shown by placing one, two and three dots respectively in proportion to whole number of each kind with three shades of brown colour from dark to light. The households occupying more than three rooms are shown by blue colour without any dot. No dot is placed in part of the pocket which is differentiated simply by the colour to which it belongs. Households numbering less than 50,000 are shown by one uniform size of rhombuses.

Salient Features : In the States of West Bengal, Maharashtra, Madras and the Union Territory of Delhi, more than 53 per cent of households live in Census houses with one room while less than 11 per cent of households live in Census houses with more than three rooms. Of these, West Bengal, Maharashtra and the Union Territory of Delhi recorded on the average more than 3 persons per room whereas Madras State recorded an average of 2.7 persons per room. Nagaland and Andaman and Nicobar Islands show a high proportion of households living in houses with one room.

In Gujarat, Andhra Pradesh, Madhya Pradesh and Tripura which account for 21.2 per cent of the urban households of India, the percentages of households occupying one room range between 50 and 58 and for households occupying more than three rooms range between 6 and 12. The average

number of persons living in one room in these areas varies between 2.3 and 3.2 and the average size of the households ranges from 4.7 to 5.4 persons. In Gujarat State, Ahmedabad city with its several millions of population shows very heavy congestion.

Uttar Pradesh, Punjab, Bihar, Rajasthan, Mysore, Orissa, Assam, Pondicherry and Sikkim which account for 35.3 per cent of total urban households in India show medium degree of congestion of urban households. The percentage of the households living in one room is between 40 and 47 and the share of households occupying three or more rooms is between 13 per cent and 21 per cent. The average number of persons per room in these States and Union Territories ranges from 1.84 to 2.52.

Kerala, Jammu and Kashmir and Himachal Pradesh which account for a mere 3.3 per cent of total urban households of India have better housing facilities, in as much as 28 per cent to 31 per cent of households live in houses with one room and more than 23 per cent of households live in houses with three and more than three rooms. The average number of persons per room in Kerala is, however, 2.28. Traditionally the houses in Kerala have been big and spacious.

The hilly terrain necessitates the construction of houses on uneven ground mostly on hill slopes as in the towns of Himachal Pradesh and Jammu and Kashmir. The houses are mostly double-storied and the number of rooms is accordingly more. So the number of persons per room in these hill States is relatively less.

Manipur with 2,453 urban households is the only Territory in India which records only 9.5 per cent of households living in houses with one room and 39 per cent of households live in houses with more than three rooms.

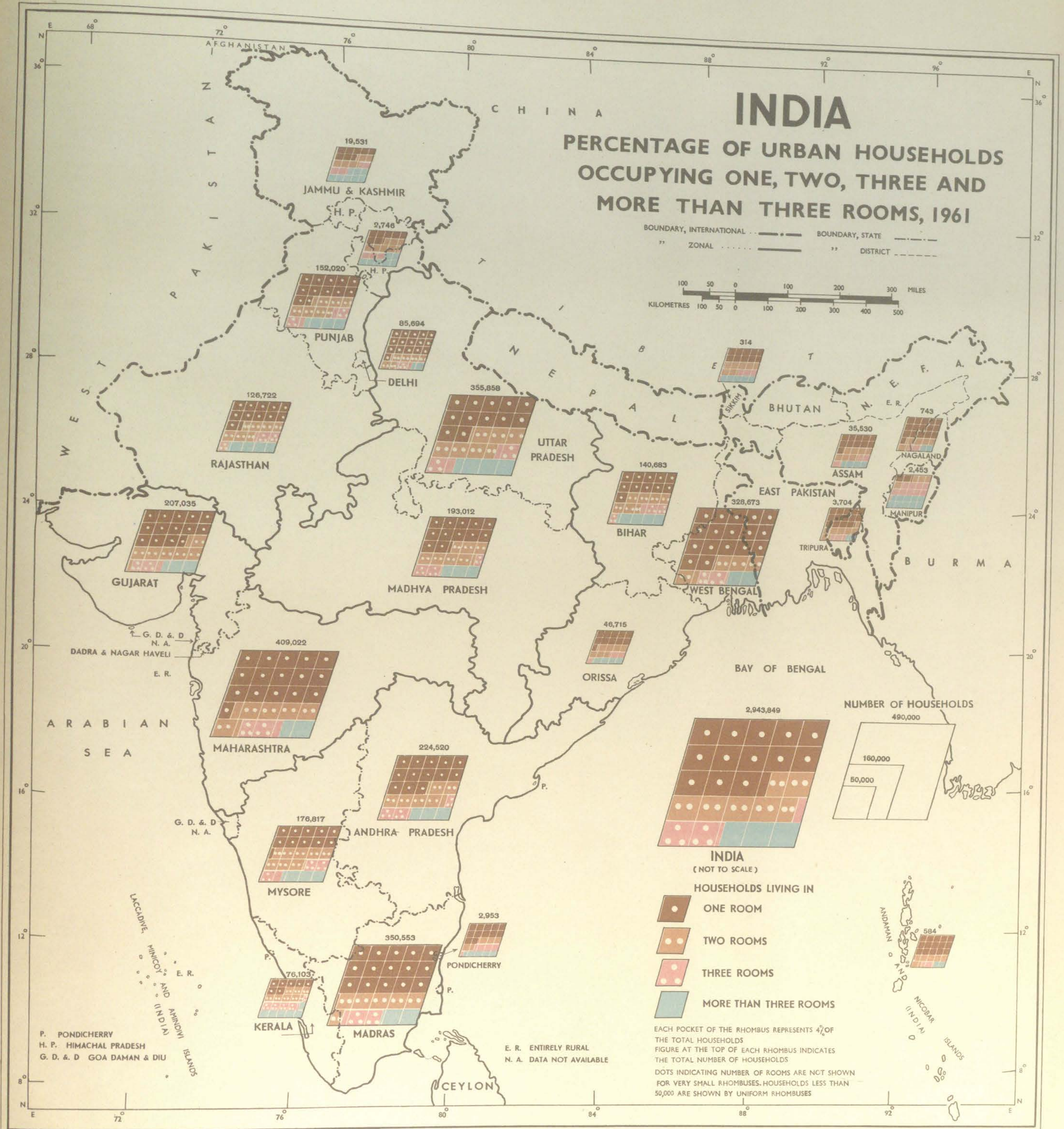
Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.

INDIA

PERCENTAGE OF URBAN HOUSEHOLDS OCCUPYING ONE, TWO, THREE AND MORE THAN THREE ROOMS, 1961

BOUNDARY, INTERNATIONAL ——— BOUNDARY, STATE ———
 " ZONAL " DISTRICT - - - - -

100 50 0 100 200 300 MILES
 KILOMETRES 100 50 0 100 200 300 400 500



DISTRIBUTION OF HOUSEHOLDS BY PREDOMINANT WALL AND ROOF MATERIALS IN RURAL AREAS, 1961

Purpose : This map depicts the distribution of sample households living in Census houses (used wholly or partly as dwellings) in different parts of rural India, according to the predominant wall and roof materials of Census houses. The relevant data were obtained at the time of houselisting operations for the 1961 Census.

Method : The material used for the construction of walls of Census houses used by the households in rural areas are grouped into three categories and are shown in each district by three colours according to the predominance of the percentage share of households in each category. Similarly, the roof materials used are also grouped into three categories and are shown in each district by vertical lines according to the predominance of their percentage share of households in each category. The following table explains the categories of wall and roof materials according to the colours assigned to them.

Wall Materials (shown by flat colour)		Roof Materials (shown by vertical lines)	
Green Colour	Grass, Leaves, Reeds, Bamboo or Timber.	Green Colour	Grass, Leaves, Reeds, Thatchwood or Bamboo.
Grey Colour	Mud and Unburnt bricks.	Orange Colour	Tiles, Slate, Shingle, Corrugated iron, Zinc or other metal sheets, Asbestos metal sheets.
Pink Colour	Burnt bricks, G.I. sheets or other metal sheets, Stone, Cement concrete and all other materials.	Purple Colour	Brick and lime, concrete and stone slab and all other materials.

In a district if the share of any group of wall materials is more than 50% then that group is considered as the most predominant and is shown by one flat colour. If no single group has more than 50% then the first two most predominant colours are used side by side but the more predominant of the two groups is shown by wider spacing and the lesser predominant by narrower spacing. The roof materials of the households on the other hand are shown by vertical lines of one colour if one particular group of roof materials has a percentage share more than 50%. If no single group has more than 50% then the first two predominant groups are shown by thicker and thinner vertical coloured lines of the two groups of roof materials respectively. The index explains the use of diversified wall and roof materials.

Salient Features : The most striking feature that comes out of this map is that there is greater uniformity in the use of wall materials than in the use of roof materials in the country. Out of 336 districts including Sikkim (and also those which are entirely urban and for which data are not available) in the Indian Union, 228 districts use mostly mud and unburnt bricks etc. as wall materials whereas 54 districts use burnt bricks, G.I. Sheets, stone etc. and only 36 districts use grass, leaves, bamboos etc. as the predominant wall materials. But in the case of roof materials, 162 districts use grass, leaves, thatchwood etc. as predominant roof materials and 123 districts use tiles, slate, zinc and other metal sheets etc. and only 34 districts use bricks, lime, concrete stone etc. as predominant roof materials.

The map reveals that the use of grass, leaves, reeds, bamboo or timber as wall materials and grass, leaves, thatchwood or bamboo as roof materials are found in areas which coincide with regions where annual rainfall exceeds 1,500 mms. and rice is the predominant crop. This part of the country has a dense vegetative cover which provides wall and roof materials at a very cheap cost to the rural population. Thus Assam; Nagaland; Tripura; Manipur; N.E.F.A.; northern districts of West Bengal; Purnea and Saharsa districts of Bihar State; Bastar and Jhabua districts of Madhya Pradesh; Thana district of Maharashtra and Alleppy district of Kerala belong to the region where the predominant wall and roof materials are grass, leaves, reeds, bamboos, timber etc.

Mud and unburnt bricks are the predominant wall materials and tiles, slate, shingle, corrugated iron, zinc or other metal sheets and asbestos metal sheets are the predominant roof materials in the Mysore Plateau; Coimbatore district of Madras; Medak, Nizamabad and Karimnagar districts of Andhra Pradesh; Ratnagiri and the eastern districts of Maharashtra; Kalahandi and Sambalpur districts of Orissa; the Western part of Bihar State; eastern Uttar Pradesh; the whole of Madhya Pradesh with the exception of Morena, Damoh and Jhabua districts; the central districts of Gujarat; Jalor, Sirohi and Pali districts of Rajasthan and Kangra district of Punjab. The clay which hardens after exposure to the atmosphere is abundantly available which provides cheap wall material in these areas. In the above areas, annual rainfall which ranges between 500 mms. and 800 mms. permits certain variety in the roof construction. Soils which are suitable for the manufacture of tiles, sheets etc. are also available here. Corrugated iron, zinc and other metal sheets are also used as roof materials.

In the central and western Uttar Pradesh; Morena district of Madhya Pradesh; Mahbubnagar district of Andhra Pradesh and the districts of Dharwar and Tumkur of Mysore; the predominant wall materials are mud and unburnt bricks and the predominant roof materials are brick, lime, concrete and stone. The Ganga-Yamuna *doab* and Chambal Valley provide good clay for use as wall material in Uttar Pradesh and Madhya Pradesh. In these districts even for roof materials this clay is used by making it into bricks or to spread as a thick layer over the bricks laid on the roof. In the districts of Andhra Pradesh and Mysore, big slabs of stone dressed into long rectangular blocks are used as roof materials and are covered by a layer of mud. The walls are also constructed with mud.

The Deccan Plateau in Maharashtra, Mysore and Andhra Pradesh are areas where stone is the important wall material. The igneous rocks like granite; basalt etc. provide cheap and durable wall materials. While tiles, corrugated sheets etc. form important roof materials in Maharashtra area, stone, bricks, lime concrete form the predominant roof materials in the districts of Mysore and Andhra Pradesh. Availability of slate in the hills around the Tungabhadra and Bhim river valleys accounts for the difference in the type of roof materials used in the northern Deccan plateau and southern Deccan plateau. The hill districts of south-eastern Rajasthan and north-western Uttar Pradesh and Himachal Pradesh use burnt bricks, G.I. sheets or other metal sheets, stone, cement concrete and other materials as wall materials and tiles, slate, shingle, corrugated metal sheets etc. as roof materials. Stone which is easily available and is cheap provides durable wall material while corrugated metal sheets are used as roof material in the Sub-Himalayan districts of Uttar Pradesh and Himachal Pradesh. Western Gujarat uses burnt bricks, corrugated metal sheets, stone, cement concrete etc. as predominant wall materials and tiles, slate, shingle, corrugated metal sheets and asbestos metal sheets as predominant roof materials. The Nilgiri district of Madras also has the same type of wall and roof materials.

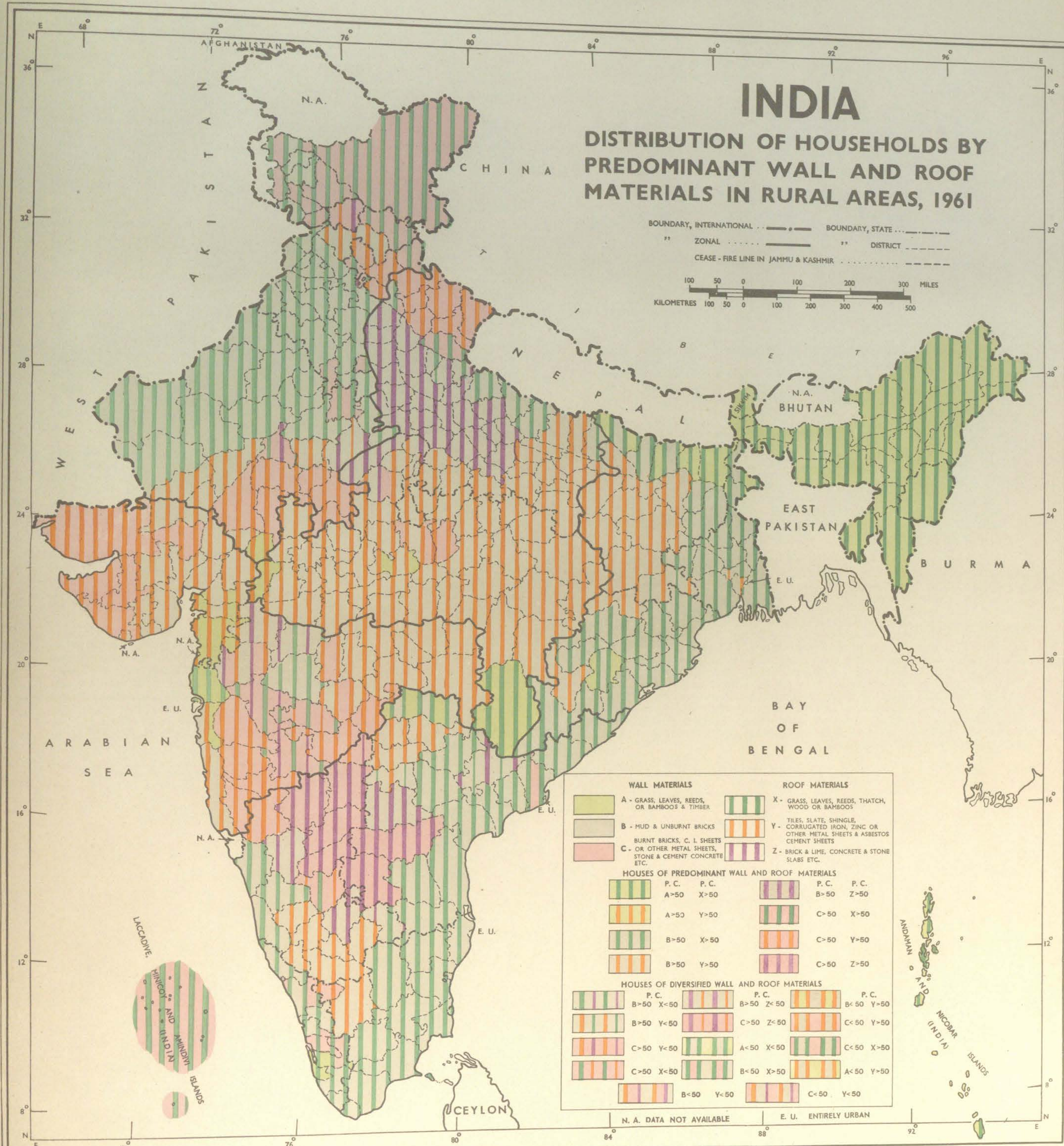
The coastal districts of Mysore; Kerala State except the districts of Kottayam, Ernakulam and Alleppey; the whole of Madras State (other than Coimbatore and Nilgiri districts); the coastal districts and eastern districts in Telangana Region of Andhra Pradesh; the whole of Orissa State with the exception of Kalahandi and Sundargarh districts; the State of West Bengal other than the three northern districts; the districts of Bhagalpur, Santal-Parganas of Bihar and the *Terai* districts of Uttar Pradesh show mud and unburnt bricks as the predominant wall materials and grass, leaves and thatchwood as the predominant roof materials. In these areas rice being the main crop, straws are available in plenty; so it becomes the common roof material for the rural houses. As mud or clay is also easily available in these areas, the predominant wall materials are mud and unburnt bricks. In the western and northern Rajasthan, Punjab Plains, the districts of Jammu and Anantnag in Jammu and Kashmir State and Aurangabad district in Maharashtra also mud and unburnt bricks are predominant wall materials and grass, leaves, thatchwood, bamboos etc. are the predominant roof materials. Though the annual rainfall is below 800 mms. in greater part of this region, the general poverty of the rural population makes the use of the cheapest local raw materials inevitable.

The districts of Alleppey and Kottayam of Kerala; Alwar district of Rajasthan, Mahendragarh and Lahaul and Spiti districts of Punjab, the Union Territory of Delhi and the major part of Jammu and Kashmir State use burnt bricks, metal sheets, stone, cement concrete etc. as predominant wall materials and grass, reeds, thatchwood, bamboo etc. as predominant roof materials.

Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.

INDIA

DISTRIBUTION OF HOUSEHOLDS BY PREDOMINANT WALL AND ROOF MATERIALS IN RURAL AREAS, 1961



DISTRIBUTION OF HOUSEHOLDS BY PREDOMINANT WALL
AND ROOF MATERIALS IN URBAN AREAS, 1961

Purpose : This map depicts the distribution of urban households living in Census houses used wholly or partly as dwellings in different parts of Urban India according to the predominant wall and roof materials of Census houses. The relevant data were obtained at the time of houselisting operations for the 1961 Census.

Method : The materials used for construction of walls and roofs of Census houses in urban areas in which the households live are shown respectively by flat colours and vertical lines of different thickness as indicated below :

Wall Materials (shown by flat colour)		Roof Materials (shown by vertical lines)	
Green colour	Grass, leaves, reeds, bamboos or timber	Green colour	Grass, leaves, reeds, thatch, wood or timber
Grey colour	Mud and unburnt bricks	Orange colour	Tiles, slate, shingle, corrugated iron, zinc or other metal sheets, asbestos cement sheets
Pink colour	Burnt bricks, C.I. sheets or other metal sheets, stone, cement concrete and all other materials	Purple colour	Brick and lime, concrete and stone and all other materials

In any district if the share of households living in Census houses using wall or roof materials grouped as above exceeds 50%, then that particular district is shown by flat colour representing wall materials and vertical lines representing the roof materials according to the respective shades of the colour assigned. On the other hand if no single group of wall materials or roof materials records 50% of households, alternative bands of two colours for the first two predominant wall materials and alternative lines of two colours for the first two predominant roof materials are used. The more predominant wall materials are indicated by a thicker band of flat colour and the more predominant roof materials are indicated by a thicker line.

Salient Features : The map reveals that in the urban areas burnt bricks, stone, cement concrete, C.I. sheets and other metal sheets etc. are generally used as wall materials in contrast to the mud and unburnt bricks used in rural areas. As regards the roof materials, tiles, slate, shingle, corrugated iron, zinc or other metal sheets and asbestos cement sheets are mostly in use as against grass, leaves, thatch, mud etc. in rural areas. The roof materials, such as, brick and lime, concrete and stone slates are the second most predominant roof materials used in urban areas. Out of 324 districts (excluding Goa, Daman and Diu for which data are not available) the most predominant wall materials recorded in urban areas were grass, leaves, reed, bamboo or timber in 22 districts; mud and unburnt bricks in 64 districts; burnt bricks, stone, cement concrete and other metal sheets in 206 districts and diversified materials in 32 districts. The most predominant roof materials recorded were grass, leaves, reeds, thatch etc. in 49 districts; tiles, slates, shingle, corrugated iron or other metal sheets in 172 districts; brick and lime, concrete and stone etc. in 61 districts and diversified materials in 42 districts.

Grass, leaves, reeds, bamboo or timber are the predominant wall materials in all the districts of Assam except United Mikir and North Cachar Hills; the Union Territories of Tripura, Manipur, Nagaland, Sikkim and Andaman and Nicobar Islands; the districts of Jalpaiguri, Cooch Behar and West Dinajpur in West Bengal; the districts of Purnea and Saharsa in Bihar and Alleppy district of Kerala. Most of these districts are rich in forests and in the Plains of these districts rice is the principal crop. Obviously the forest materials and grass are found to be very cheap building materials. In north-eastern India, since rainfall is heavy, the houses are built above the ground on stilts for which timber and bamboo are best suited. Moreover, since urbanization is in its infancy in many of these districts, rural conditions still prevail and the same structures peculiar to rural conditions continue to exist. The districts of Warangal, Adilabad, Shimoga, Kalahandi, Bolangir, Chanda, Bhandara, Amravati, Surguja, Seoni, Hoshangabad and Jalor on the other hand show diversified pattern in the use of wall materials.

Mud and unburnt bricks are the predominant wall materials in Anantnag district of Jammu and Kashmir; southern Uttar Pradesh; most of the districts of Madhya Pradesh; Ranchi and Palamau districts of Bihar; the hilly districts of Orissa; northern districts of Andhra Pradesh; western and southern districts of Mysore; Salem, South Arcot and Thanjavur districts of Madras and Palghat and Trivandrum districts of Kerala.

Stone, cement concrete, corrugated sheets and other metal sheets etc. are the predominant wall materials in many districts of Madras and Kerala. The whole of Maharashtra State except a strip in the east; the Deccan Plateau area extending over eastern Mysore and western Andhra Pradesh; Gujarat; nearly the whole of Rajasthan and adjoining districts of Madhya Pradesh; Jammu and Kashmir; Himachal Pradesh; Punjab; most of the districts of Uttar Pradesh and Bihar; the districts in the Hooghly delta and Darjeeling district of West Bengal; 4 districts in Orissa and the United Mikir and North Cachar Hills district of Assam use burnt bricks, stone, cement concrete, C.I. sheets and other metal sheets as the predominant wall materials.

Grass, leaves and thatch are the predominant roof materials in Darrang and Nowgong districts of Assam; Mokokchung district of Nagaland; the Union Territories of Manipur and Tripura; Saharsa and Purnea districts of Bihar; Birbhum and Bankura districts of West Bengal; the coastal districts of Orissa and Andhra Pradesh; South Arcot district of Madras; the southern districts of Kerala; Punjab plains with adjoining district of Ganganagar and whole of Jammu and Kashmir State except Srinagar district.

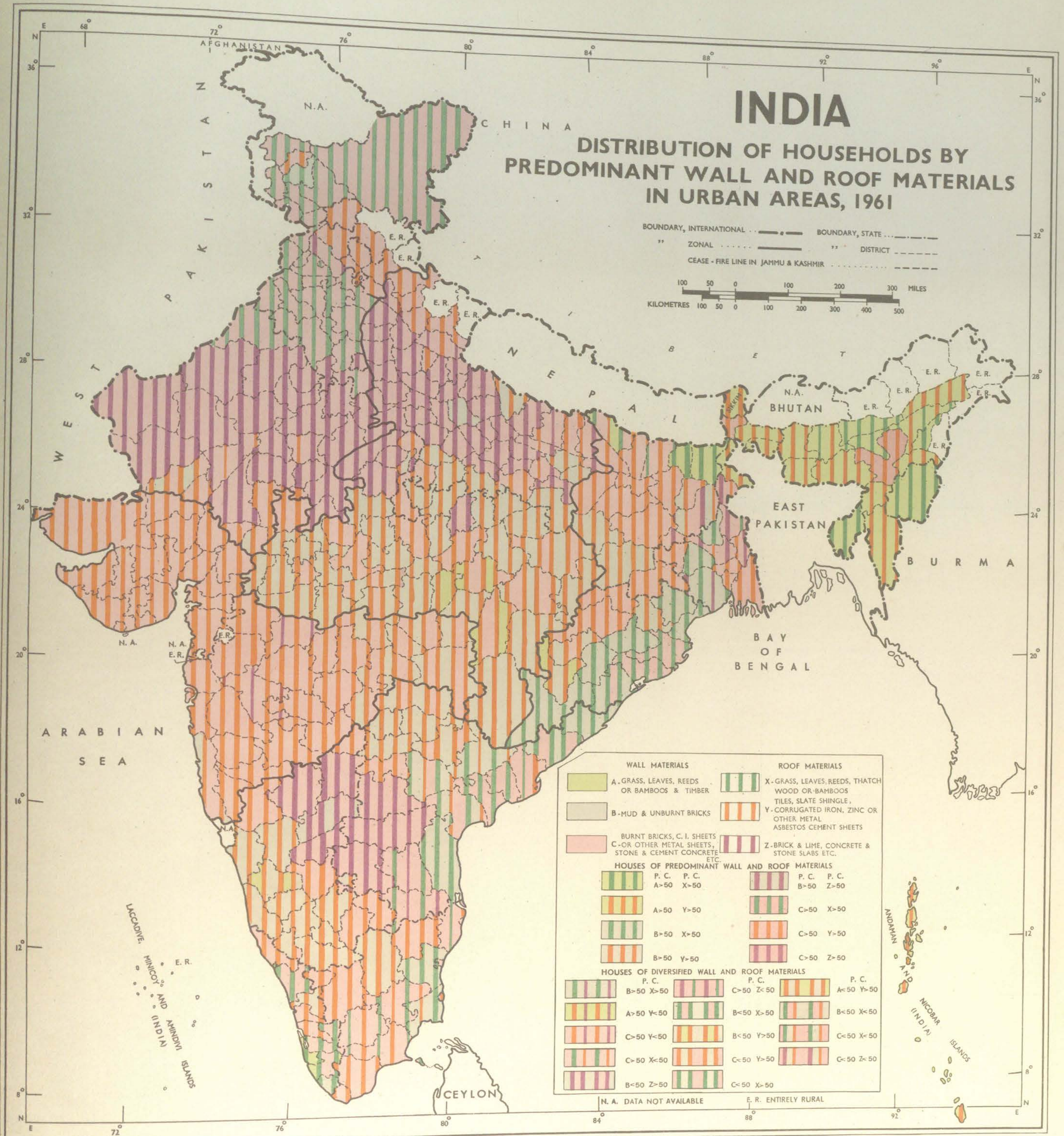
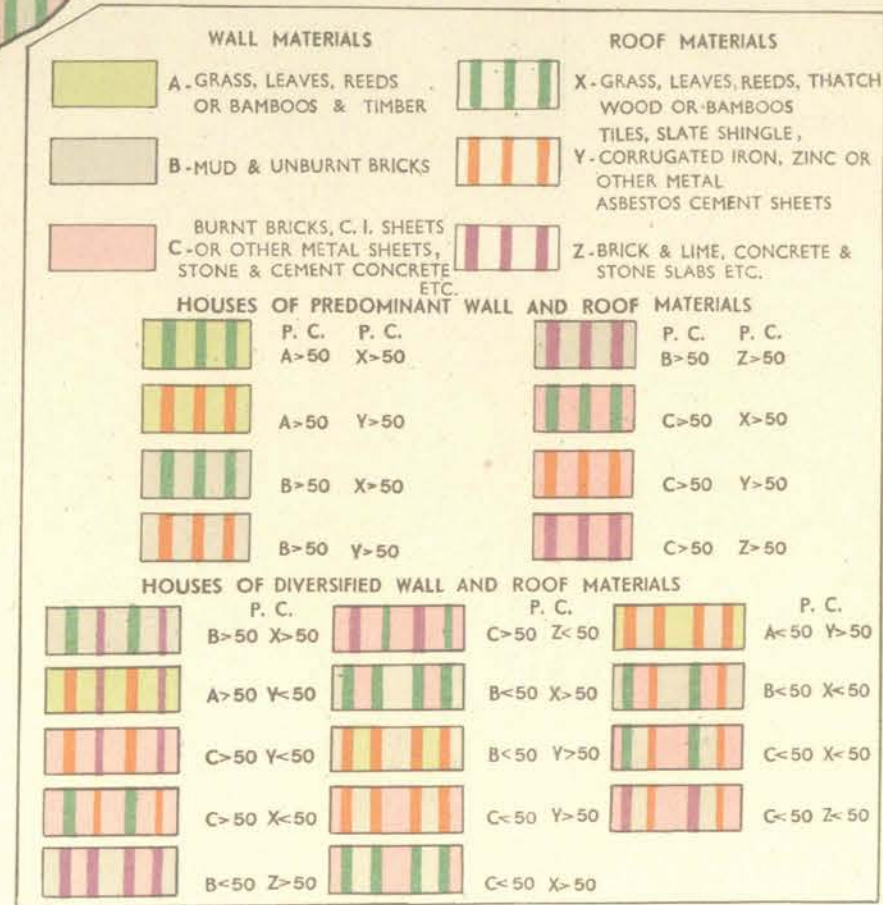
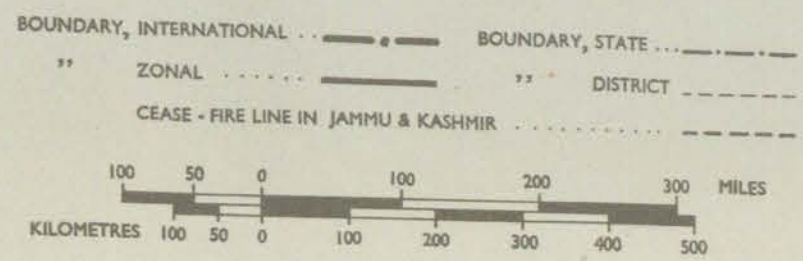
Though in urban areas generally durable wall and roof materials are used, in some parts, mainly in the wet parts in the east and south-west, cheaper local raw materials are also used. The use of bricks, lime, concrete and stone as roof materials, on the other hand, is found to be much more prevalent in urban areas of Rajasthan, upper and middle Ganga Plain, western part of Andhra Pradesh and the north-eastern part of Mysore.

The use of tiles etc. as predominant roof materials is more common in the southern peninsula than in the north. A compact area can be discerned with Gujarat, Maharashtra, Madhya Pradesh, Bihar, northern part of Orissa, Andhra Pradesh, Assam, Madras and Mysore where the use of tiles, zinc sheets etc. as the most predominant roof materials is more pronounced. Flat tiles are commonly used in Mysore, Kerala and Madras States while semi-circular tiles are used in Madhya Pradesh and Maharashtra. Corrugated zinc sheets are the most predominant roof materials in Gujarat and the hill districts of Uttar Pradesh and Punjab.

Source : Census of India, 1961, Vol. I, India, Part IV-(B)—Housing and Establishment Tables.

INDIA

DISTRIBUTION OF HOUSEHOLDS BY PREDOMINANT WALL AND ROOF MATERIALS IN URBAN AREAS, 1961



Health

**NUMBER OF MEDICAL INSTITUTES PER 10,000
OF CENSUS HOUSES, 1961**

Purpose : This map shows the distribution of medical institutions per 10,000 of Census houses in 1961.

Method : "A Census house is a structure or part of a structure inhabited or vacant, or a dwelling, a shop, a shop-cum-dwelling or a place of business, workshop, school etc., with a separate entrance". For the purpose of this map the term "medical institution" includes hospitals, health centres, doctor's clinics, dispensaries etc. The number of medical institutions for each district has been compiled and its ratio per 10,000 of Census houses has been worked out and shown in the map by choropleth method by grouping the data into six ranges—three above, one nearer to and two below the National Average (12) as shown in the legend to the map.

Limitation of the data

The data regarding the number of Census houses used as medical institutions are available in Table E-I : Census houses and the uses to which they are put, which have been prepared on the basis of data collected during the houselisting operations for the 1961 Census.

Salient Features : There are 14 districts in the country where the number of medical institutions per 10,000 of Census houses is relatively high (above 26). These are—three districts of the Hooghly Industrial Region and Darjeeling district in West Bengal; Ernakulam, Kottayam and Alleppey districts in Kerala; Bhagalpur district in Bihar; Cachar district in Assam; Gr. Bombay district in Maharashtra and the Union Territories of Andaman and Nicobar Islands, Tripura, N.E.F.A. and Mahe area of Pondicherry.

In the next range (20—26) there are 21 districts. West Bengal alone accounts for 4 districts in this range. Assam, Madras and Punjab have 3 districts each, Gujarat has 2 and Bihar, Jammu and Kashmir, Kerala, Uttar Pradesh and the Union Territories of Delhi and Laccadive, Minicoy and Amindivi Islands have 1 each.

In the third range (14—19) there are in all 57 districts. They mainly cover 10 districts of Maharashtra, 9 of Uttar Pradesh, 6 each in Assam and Gujarat, 4 each in Madhya Pradesh and West Bengal and 3 each in Bihar, Kerala and Punjab. The remaining 9 districts are found in Andhra Pradesh, Jammu and Kashmir, Mysore, Orissa, Rajasthan, Himachal Pradesh and Pondicherry.

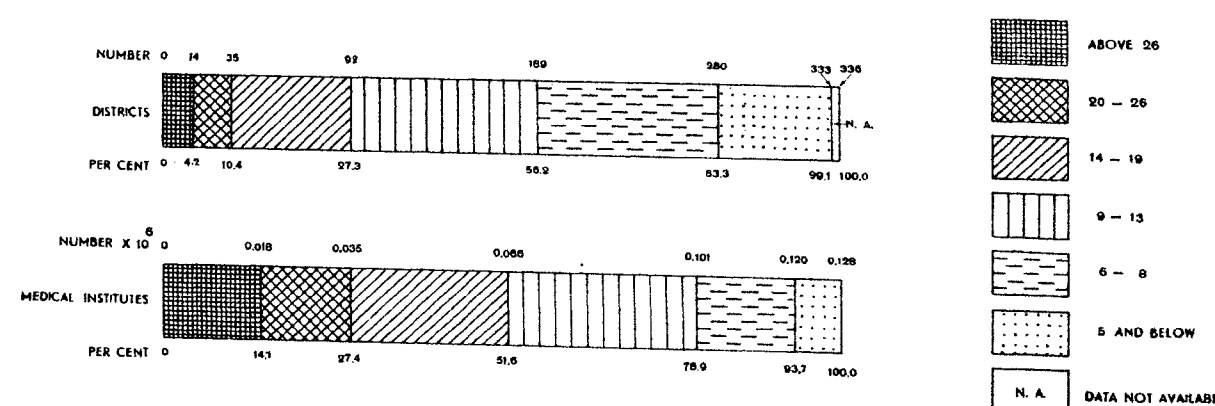
There are 97 districts in the next range (9—13) which is nearer to the National Average (12). These districts are mainly distributed in Punjab, Uttar Pradesh and Madhya Pradesh (11 each), Bihar, Maharashtra and Mysore (8 each).

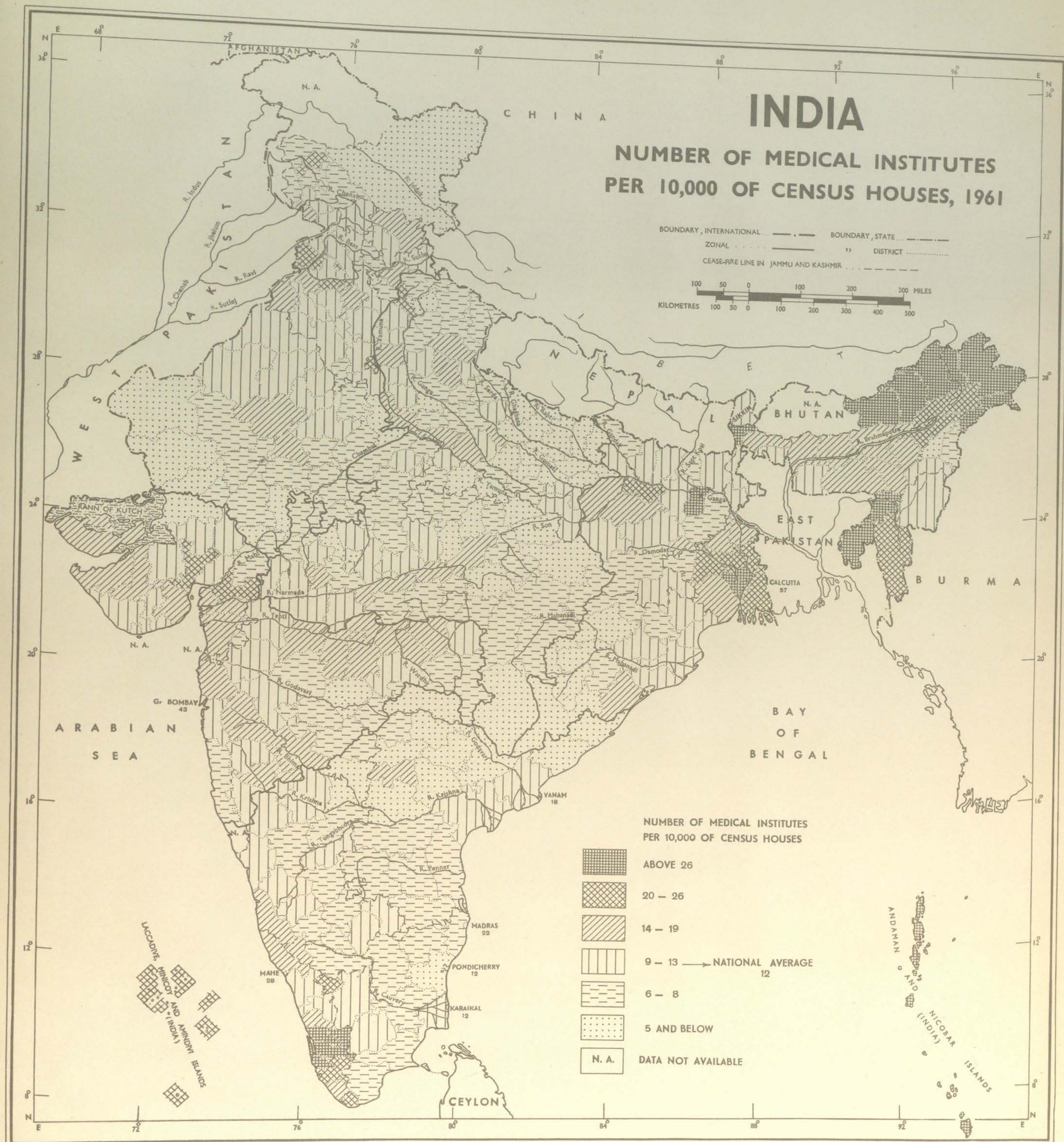
In the next range (6—8) fall 91 districts. These districts are more numerous in Madhya Pradesh (20), Uttar Pradesh (15) and Rajasthan (12).

Under the lowest range (5 and below), there are 53 districts which are mainly concentrated in Uttar Pradesh (18), Koraput hill area of Orissa (4), Madhya Pradesh (8), northern part of Andhra Pradesh (9), western Rajasthan (3) and Ladakh area of Jammu and Kashmir.

Sl. No.	State/Union Territory	Total number of Census houses 1961	Number of medical institutes 1961	Number of medical institutes per 10,000 of Census houses 1961
1	2	3	4	5
INDIA	...	107,857,037	128,168	11.88
STATES				
1 Andhra Pradesh	...	8,758,385	6,448	7.36
2 Assam	...	2,364,647	4,428	18.73
3 Bihar	...	8,741,783	10,670	12.21
4 Gujarat	...	5,433,394	8,003	14.73
5 Jammu and Kashmir	...	1,313,959	1,529	11.64
6 Kerala	...	3,380,469	7,177	21.23
7 Madhya Pradesh	...	8,974,052	7,490	8.35
8 Madras	...	7,799,674	6,683	8.57
9 Maharashtra	...	11,129,636	16,537	14.86
10 Mysore	...	5,651,053	5,499	9.73
11 Orissa	...	3,702,725	3,738	10.10
12 Punjab	...	5,276,474	6,501	12.32
13 Rajasthan	...	5,184,961	4,330	8.35
14 Uttar Pradesh	...	19,730,436	15,814	8.02
15 West Bengal	...	8,794,662	20,290	23.07
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	13,853	70	50.53
2 Delhi	...	497,528	1,235	24.82
3 Himachal Pradesh	...	489,341	517	10.57
4 Laccadive, Minicoy and Amindivi Islands	...	5,718	12	20.99
5 Manipur	...	197,335	250	12.67
6 Tripura	...	198,235	641	32.34
7 Dadra and Nagar Haveli	...	13,327	7	5.25
8 Goa, Daman and Diu	...		Not Available	
9 Pondicherry	...	84,050	106	12.61
10 North-East Frontier Agency	...	4,156	95	228.59
11 Nagaland	...	84,467	61	7.22
12 SIKKIM	...	32,717	37	11.31

Source : Census of India, 1961, Vol. I, India, Part IV-B—Housing and Establishment Tables.





NUMBER OF HOSPITAL BEDS PER 100,000 OF POPULATION, 1961

Purpose : This map shows the districtwise availability of hospital beds per 100,000 of population in India in 1961.

Method : The number of hospital beds calculated per 100,000 of population for each district are grouped into six ranges—one above, one nearer to and four below the National Average (52) as shown in the legend to the map. The districts are hatched according to the range to which they belong.

Salient Features : The map reveals that out of 336 districts (Sikkim has been treated as a district for analysis) only 59 districts are in the highest range (above 90). The States of Assam and Orissa do not have even a single district falling in this range.

The Union Territory of Andaman and Nicobar Islands records the

highest number of hospital beds (642) per 100,000 of population, the districts of Simla and Coorg rank second and third with 536 and 362 hospital beds respectively. The other districts of this range show variation from 91 to 335 beds per one lakh of population.

In the next ranges of 51—90, 31—50, 21—30, 16—20 and 15 and below, the number of districts found are 54, 78, 55, 37 and 51 respectively. Information for Dadra and Nagar Haveli is not available and for Lahaul and Spiti district of Punjab no hospital beds have been reported.

The map reveals that most of the districts in the lowest category (15 and below) lay in north-western part of the Eastern Zone, south-eastern part of the Central Zone, northern part of the Southern Zone and in the central part of the Western Zone.

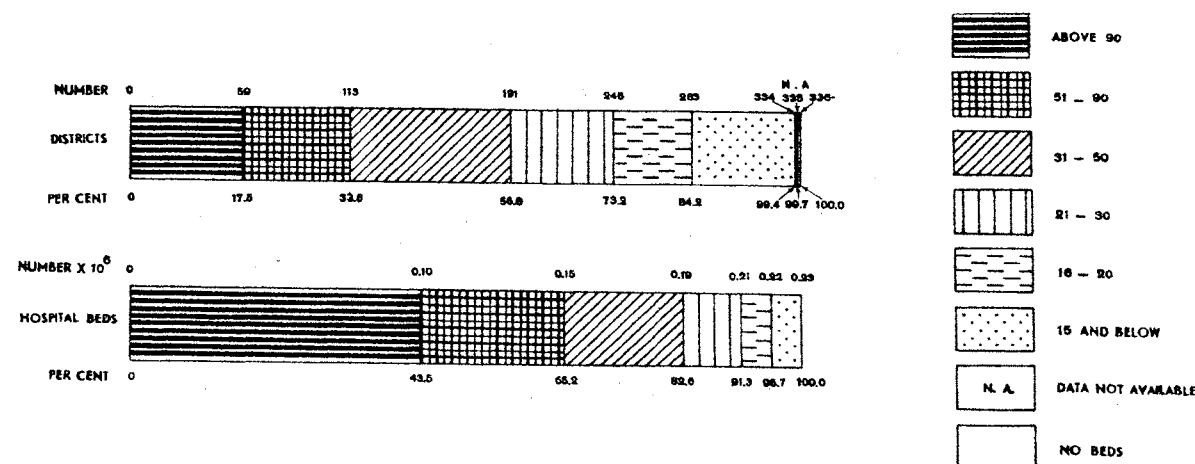
Sl. No.	State/Union Territory	Total population 1961	Total number of hospital beds 1961	Number of hospital beds per 100,000 of population 1961
1	2	3	4	5
	INDIA*	439,234,771	229,825	52
	STATES			
1	Andhra Pradesh	35,983,447	19,345	54
2	Assam	11,872,772	3,490	29
3	Bihar	46,455,610	10,161	22
4	Gujarat	20,633,350	8,009	39
5	Jammu and Kashmir	3,560,976	2,234	63
6	Kerala	16,903,715	13,994	83
7	Madhya Pradesh	32,372,408	14,762	46
8	Madras	33,686,953	24,063	71
9	Maharashtra	39,553,718	23,786	60
10	Mysore**	23,586,772	14,487	61
11	Orissa	17,548,846	5,497	31
12	Punjab	20,306,812	12,996	64
13	Rajasthan	20,155,602	9,768	48
14	Uttar Pradesh	73,746,401	26,152	35
15	West Bengal	34,926,279	28,180	81
	UNION TERRITORIES AND OTHER AREAS			
1	Andaman and Nicobar Islands	63,548	408	642
2	Delhi	2,658,612	5,815	219
3	Himachal Pradesh	1,351,144	1,588	118
4	Laccadive, Minicoy and Amindivi Islands	24,108	40	166
5	Manipur	780,037	486	62
6	Tripura	1,142,005	431	38
7	Dadra and Nagar Haveli	57,963	Not Available	
8	Goa, Daman and Diu	626,667	1,189	190
9	Pondicherry	369,079	958	260
10	North-East Frontier Agency	336,558	1,110	330
11	Nagaland	369,200	694	188
12	SIKKIM	162,189	182	112

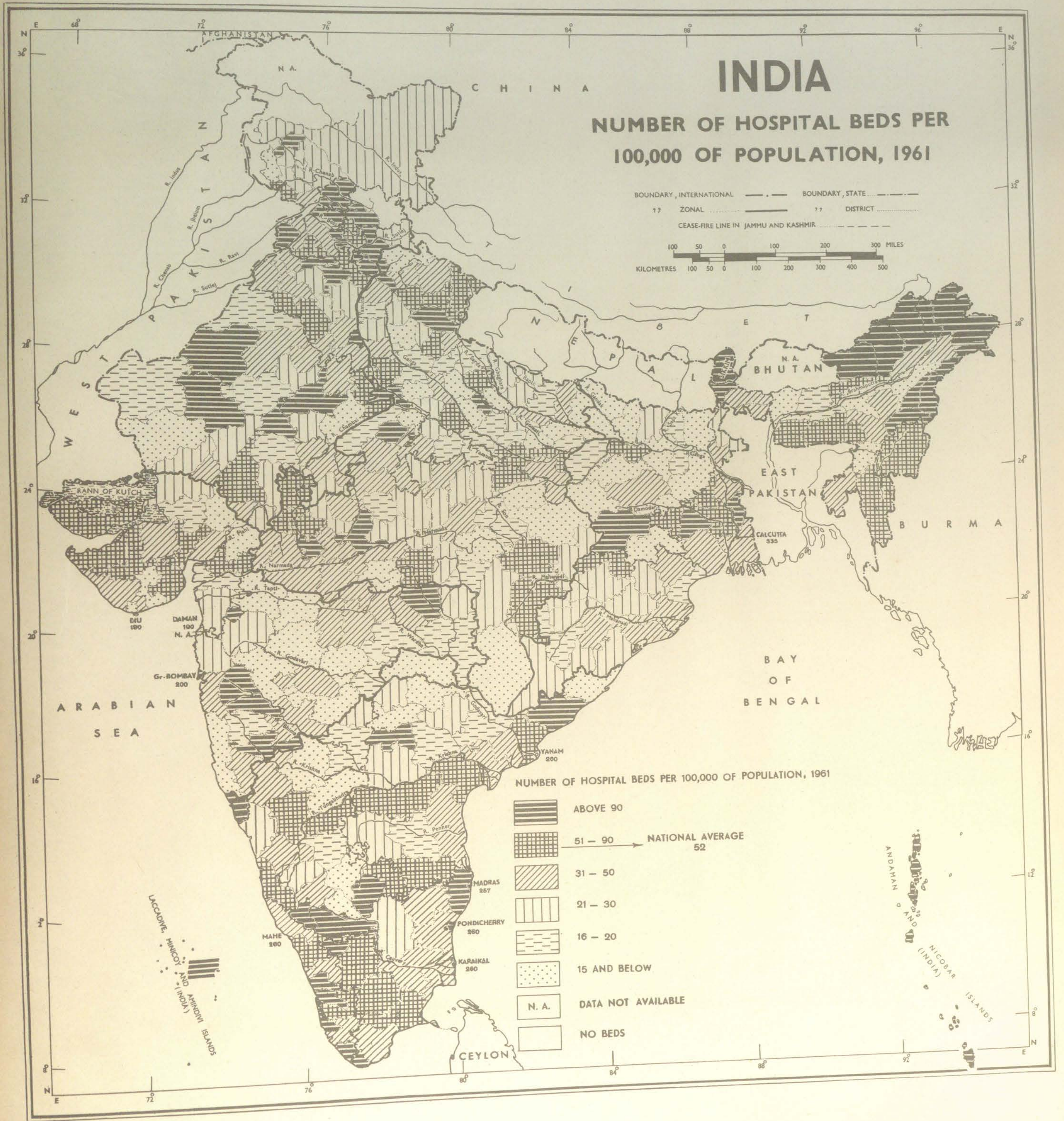
* National Average has been calculated after excluding the population of Dadra and Nagar Haveli for which the data relating to the number of hospital beds are not available.

** Relates to Government hospitals only.

Note : Figures relating to number of hospital beds of Greater Bombay in the State of Maharashtra relate to the year 1962.

Source : 1 Data supplied by the Superintendents of Census Operations.
2 Compendium of Social Statistics, 1963, United Nations.





MAP 188

NUMBER OF MEDICAL DOCTORS PER 100,000
OF POPULATION, 1961

Purpose : The map reveals districtwise ratio (hitherto called 'Number') of medical doctors per 100,000 of population, 1961.

Method : Number of medical doctors per 100,000 of population are calculated for each of the districts and are shown in the map by choropleth method by grouping the data into six ranges—two above, one nearer to and three below the National Average (55) as shown in the legend to the map.

Salient Features :

A glance at the map reveals that number of medical doctors per 100,000 of population are relatively very high (above 85) in 43 districts of the country. These districts are more numerous in Kerala and Punjab. 4 districts of Krishna-Godavari delta and Hyderabad district of Andhra Pradesh, 5 districts of Hooghly Industrial Region in West Bengal, 2 districts each of Bihar, Madras, Maharashtra, Uttar Pradesh and the Union Territory of Pondicherry and one district each of Assam, Madhya Pradesh and the Union Territories of Manipur, Tripura and Delhi also fall in this category.

In the next high range (61—85), there are 44 districts most of which are in Uttar Pradesh (9), Punjab (8), West Bengal (5) and Andhra Pradesh (4). The remaining 18 districts are scattered all over the country.

In all, there are 69 districts where the number of medical doctors per

100,000 of population are nearer to the National Average (55). Districts in this range (41—60) are more numerous in Andhra Pradesh (9), Madras (8), Rajasthan and Uttar Pradesh (7 each), West Bengal and Maharashtra (6 each) and Bihar, Gujarat and Madhya Pradesh (5 each).

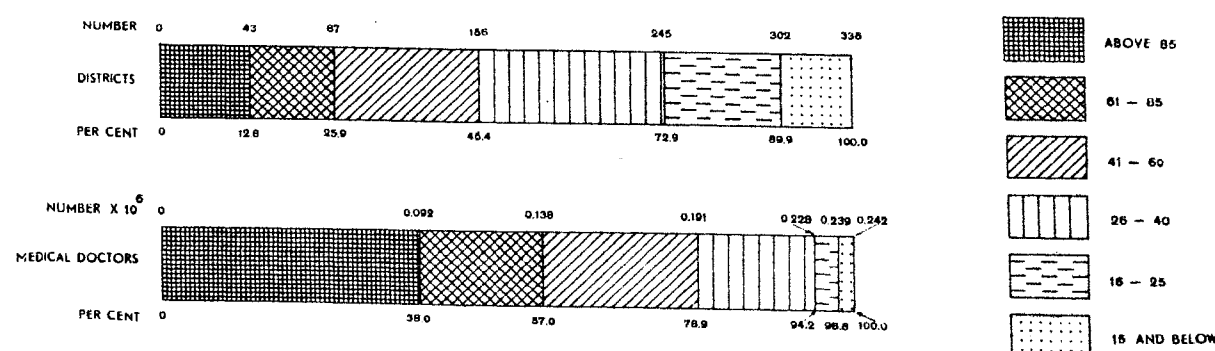
The largest number of districts (89) fall under the next range 26—40. Uttar Pradesh alone has 17 of them followed by Madhya Pradesh and Maharashtra (12 each), Mysore (9), Gujarat (8) and Bihar (7). The remaining 24 districts are in Himachal Pradesh (5); Assam, Jammu and Kashmir, Orissa and Rajasthan (3 each); Andhra Pradesh, Madras and the Union Territory of Goa, Daman and Diu (2 each) and Laccadive, Minicoy and Amindivi Islands.

There are 57 districts where the number of Medical doctors per 100,000 of population are relatively low (16—25). These districts are mainly in the under-urbanized areas of Uttar Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Gujarat, Mysore, Bihar, Orissa and Jammu and Kashmir States and the Union Territories of Himachal Pradesh, N.E.F.A. and Nagaland.

The number of medical doctors are the lowest in the range 15 and below in 34 districts which are scattered in western Rajasthan, eastern Madhya Pradesh and Bastar area, central Orissa Plateau, Garo hills and Mizo hills districts of Assam and the Union Territory of Nagaland and Sikkim.

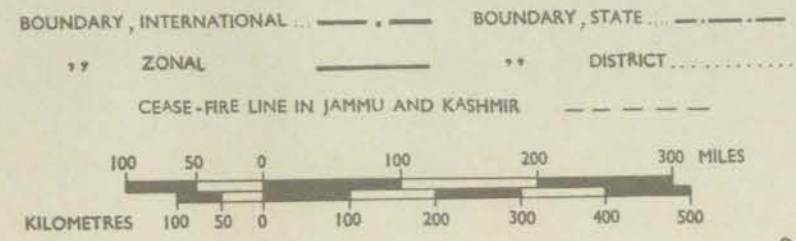
Sl. No.	State/Union Territory	Total population 1961	Total number of medical doctors 1961	Total number of medical doctors per 100,000 of population 1961
1	2	3	4	5
INDIA	...	439,234,771	242,292	55
STATES				
1 Andhra Pradesh	...	35,983,447	25,995	72
2 Assam	...	11,872,772	7,265	61
3 Bihar	...	46,455,610	22,174	48
4 Gujarat	...	20,633,350	8,407	41
5 Jammu and Kashmir	...	3,560,976	1,113	31
6 Kerala	...	16,903,715	18,052	107
7 Madhya Pradesh	...	32,372,408	9,477	29
8 Madras	...	33,686,953	18,581	55
9 Maharashtra	...	39,553,718	21,272	54
10 Mysore	...	23,586,772	8,955	38
11 Orissa	...	17,548,846	5,734	33
12 Punjab	...	20,306,812	19,218	95
13 Rajasthan	...	20,155,602	6,910	34
14 Uttar Pradesh	...	73,746,401	29,766	40
15 West Bengal	...	34,926,279	31,265	90
UNION TERRITORIES AND OTHER AREAS				
1 Andaman and Nicobar Islands	...	63,548	26	41
2 Delhi	...	2,658,612	4,522	170
3 Himachal Pradesh	...	1,351,144	455	34
4 Laccadive, Minicoy and Amindivi Islands	...	24,108	8	33
5 Manipur	...	780,037	692	89
6 Tripura	...	1,142,005	1,479	130
7 Dadra and Nagar Haveli	...	57,963	3	5
8 Goa, Daman and Diu	...	626,667	488	78
9 Pondicherry	...	369,079	303	82
10 North-East Frontier Agency	...	336,558	80	24
11 Nagaland	...	369,200	50	14
12 SIKKIM	...	162,189	2	1

Source : Census of India, 1961, Vol. I, India, Part II-B(ii)—General Economic Tables.

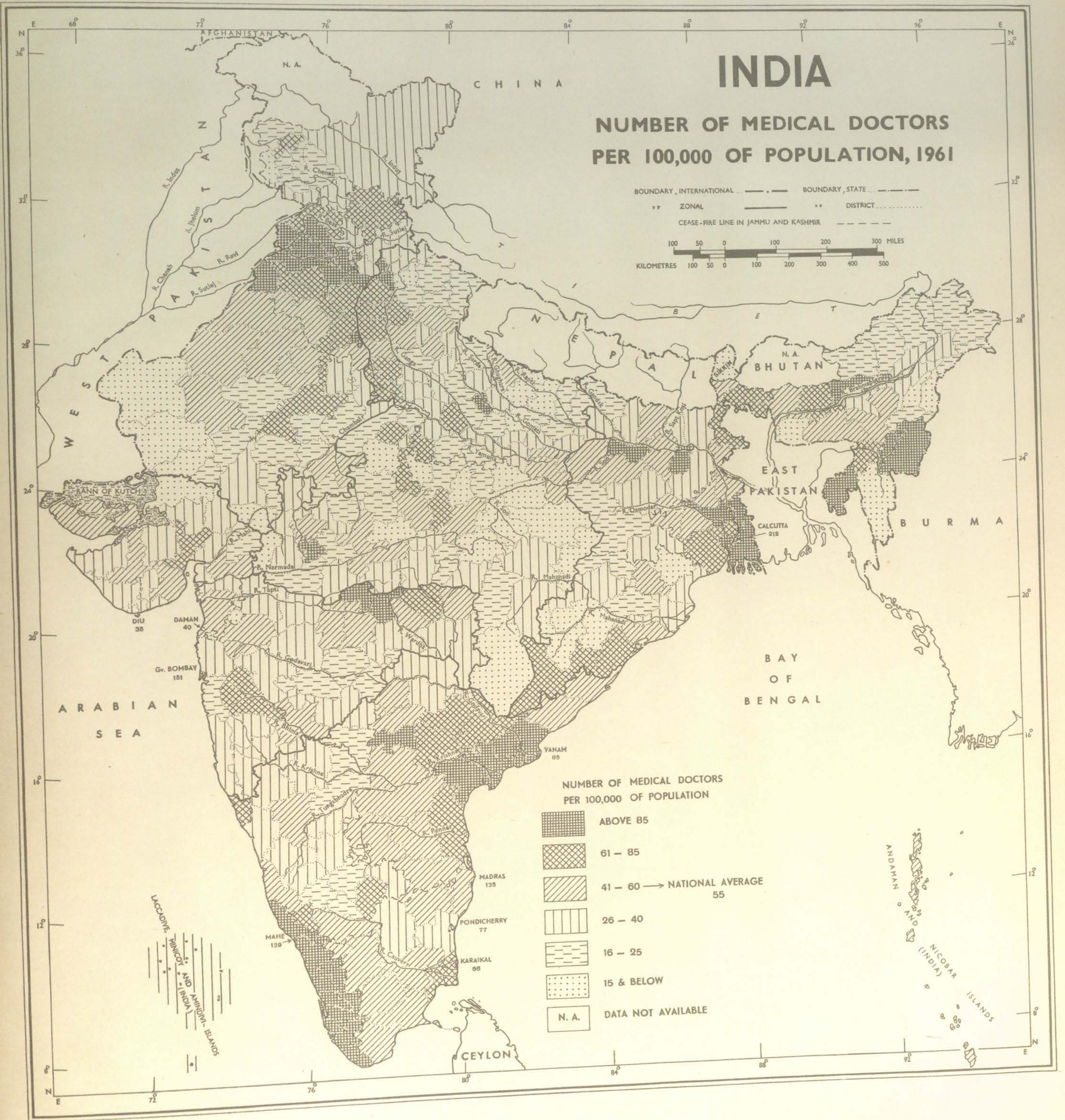
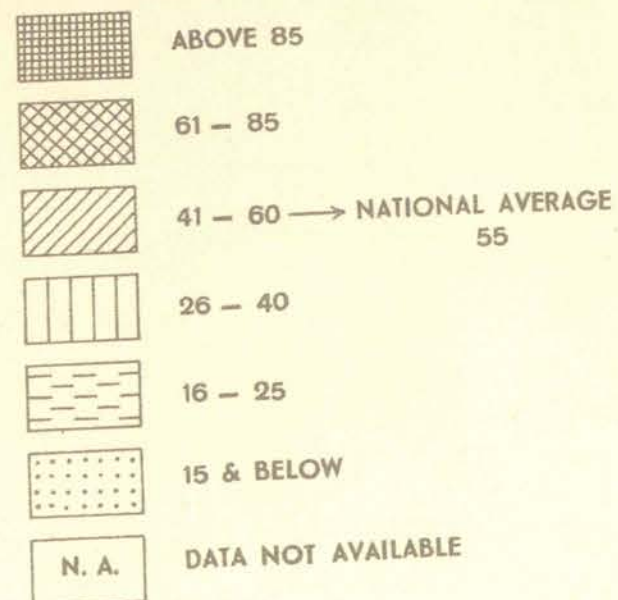


INDIA

NUMBER OF MEDICAL DOCTORS PER 100,000 OF POPULATION, 1961



NUMBER OF MEDICAL DOCTORS PER 100,000 OF POPULATION



DEMOGRAPHIC REGIONS

NATURAL REGIONS, SUB-REGIONS AND DIVISIONS

Purpose : This map depicts the Natural Regions, Sub-regions and further divisions of the country.

Method : The country has been divided into Natural Regions, Sub-regions and Divisions by different colours as shown in the legend to the map. Numbers are written inside the Divisions to indicate their names. For paucity of space the Region and Sub-region numbers, though mentioned in the text, have not been indicated on the map, except in the case of Laccadive, Minicoy & Amindivi Islands and Andaman & Nicobar Islands where the Sub-region numbers have been indicated.

Salient Features : The whole country has been divided into 7 Regions, 31 Sub-regions and 89 divisions.

1. Himalayas :

This region contains the entire Himalayan girdle in the north and north-eastern part of the country and has been further sub-divided into three Sub-regions—1.1 West Himalayas ; 1.2 East Himalayas and 1.3 North-Eastern Ranges.

1.1 West Himalayas : This Sub-region has got three divisions—1.11 Jammu & Kashmir embracing 9 districts of Jammu & Kashmir ; 1.12 Himachal Pradesh and Himalayan Punjab division consisting of 6 districts of Himachal Pradesh and 3 hill districts of Punjab and 1.13 Himalayan Uttar Pradesh (Highland districts) comprising 8 hill districts of Uttar Pradesh.

1.2 East Himalayas : This Sub-region consists of two divisions—1.21 Darjeeling-Sikkim covering Darjeeling district of West Bengal and Sikkim ; 1.22 Bhutan-Assam Himalayas covering the Union Territory of N.E.F.A.

1.3 North-Eastern Ranges : This has further been divided into four divisions—1.31 Assam Hills (Meghalaya) covering 4 hill districts of Assam ; 1.32 North-Eastern Border Hills consisting of the Union Territory of Nagaland ; 1.33 the Union Territory of Manipur and 1.34 the Union Territory of Tripura.

2. Northern Plains :

There is a vast stretch of densely populated alluvial plains lying between the Himalayas and the Central and Peninsular Plateau known as Northern Plains. This is divided into six Sub-regions—2.1 Rajasthan Plain ; 2.2 Punjab Plains ; 2.3 Uttar Pradesh Plains ; 2.4 Bihar Plains ; 2.5 West Bengal Plains and 2.6 Assam Valleys.

2.1 Rajasthan Plain : The Sub-region of Rajasthan Plain has got two divisions—2.11 Rajasthan Desert (Thar : Marwar) covering three westernmost dry districts of Rajasthan where the annual rainfall is below 250 mms. and 2.12 Rajasthan Dry Area embracing 6 districts of Rajasthan lying next to Aravalli Hills.

2.2 Punjab Plains : This Sub-region has been divided into 4 divisions—2.21 North Punjab Plain covering the districts of Gurdaspur, Amritsar, Kapurthala and Ferozepur of Punjab ; 2.22 Beas-Sutlej *doab* (Bisht *doab*) Plain comprising Hoshiarpur, Jullundur and Ludhiana districts ; 2.23 East Punjab Plain covering Ambala, Patiala and Karnal districts and 2.24 South-Western Punjab (Haryana) Plain comprising 5 districts of Punjab.

2.3 Uttar Pradesh Plains : This Sub-region has been divided into 6 divisions—2.31 Upper Yamuna-Ganga *doab* covering 5 western districts of Uttar Pradesh ; 2.32 Lower Ganga-Yamuna *doab* embracing 9 districts of Uttar Pradesh ; 2.33 Uttar Pradesh Tarai (Koshala) region comprising 8 districts starting from Pilibhit to Deoria district ; 2.34 Rohilkhand embracing 6 districts in between the Ganga and Sarda rivers ; 2.35 Oudh covering 7 districts of Upper Ganga-Ghaghara *doab* and 2.36 East Uttar Pradesh embracing 6 districts of Lower Ganga-Ghaghara *doab* area.

2.4 Bihar Plains : This Sub-region has got two divisions—2.41 North Bihar Plain (Tirhut) covering 6 districts of Bihar to the north of Ganga river and 2.42 South Bihar Plain (Magadha) covering 5 districts of Bihar lying south of river Ganga.

2.5 West Bengal Plains : The West Bengal Plains are further sub-divided into 4 divisions—2.51 North Bengal Plain or Duars area consisting of Jalpaiguri and Cooch Behar districts of West Bengal ; 2.52 Northern Para Delta or Barind region comprising West Dinajpur and Malda districts of West Bengal ; 2.53 Ganga Delta covering Murshidabad, Nadia, 24-Parganas and Calcutta districts of West Bengal and 2.54 Damodar Delta embracing Hooghly, Howrah and Midnapore districts of West Bengal.

2.6 Assam Valleys : The Sub-region of Assam Valleys has been divided into 2 divisions—2.61 Brahmaputra Valley embracing 6 districts in the north and 2.62 Surma Valley coinciding with Cachar district of Assam.

3. Central Hills and Plateaus :

This region constitutes the Central Plateau of India surrounded by the Great Plains in the North, Rajasthan Desert in the West, the Deccan Lava Plateau in the South and Orissa Hills and Plateaus in the East. It has been further sub-divided into 8 Sub-regions—3.1 Rajasthan Hills and Plateaus ; 3.2 Bundelkhand ; 3.3 Malwa ; 3.4 Vindhya Ranges and Plateaus ; 3.5 Central Madhya Pradesh Plateau ; 3.6 Orissa Hills and Plateaus ; 3.7 South Bihar Hills and Plateaus and 3.8 West Bengal Uplands.

3.1 Rajasthan Hills and Plateaus : This Sub-region is divided into 5 divisions—3.11 Aravallis and Uplands embracing 9 districts of Rajasthan ; 3.12 Delhi Ridges coinciding with the Union Territory of Delhi ; 3.13 Aravalli Outlier coinciding with Gurgaon district of Punjab ; 3.14 Rajasthan Hills (Mewar, Bagar) comprising 4 districts south of Aravalli Hills in Rajasthan and 3.15 East Rajasthan Hills covering 4 districts east of Aravalli Hills.

3.2 Bundelkhand : Bundelkhand Upland presents an old erosion surface, carved out of granite. It is further divided into 3 divisions—3.21 Chambal Ravines (North-Western Madhya Pradesh) covering 4 districts of Madhya Pradesh ; 3.22 Trans Yamuna Alluvial Veneer comprising 4 southern districts of Uttar Pradesh and 3.23 North-Central Madhya Pradesh covering Tikamgarh and Chhatarpur districts of Madhya Pradesh.

3.3 Malwa : Malwa Plateau is built of lava with rolling surfaces, flat-topped forested hills and a number of rivers, such as, Chambal, Betwa & Parbati flowing towards north. This Sub-region is divided into 2 divisions—3.31 North Malwa Uplands covering Shivpuri and Guna districts of Madhya Pradesh and 3.32 Malwa Plateau covering 9 districts of Madhya Pradesh.

3.4 Vindhya Ranges and Plateaus : To the east of Malwa Plateau rise a series of plateaus at different levels, each separated from the other by a scarp. These are known as Vindhya Ranges and have further been divided into three divisions—3.41 Vindhyas covering 5 districts of Madhya Pradesh ; 3.42 Rewa Plateau: Vindhyan Scarplands embracing Panna, Satna and Rewa districts of Madhya Pradesh and 3.43 Kaimur (Vindhyachal) coinciding with Mirzapur district of Uttar Pradesh.

3.5 Central Madhya Pradesh Plateau : This Sub-region is divided into

7 divisions—3.51 Narmada Valley covering Jabalpur, Narsimhapur and Hoshangabad districts of Madhya Pradesh ; 3.52 Western Satpuras (Satpura Gawilgarh Hills) embracing West Nimar and East Nimar districts ; 3.53 Central Satpuras (Gawilgarh-Mahadeo Hills) covering Betul, Chhindwara and Seoni districts ; 3.54 Eastern Satpuras (Maikala Range) covering Balaghat and Mandla districts ; 3.55 Baghelkhand Plateau covering Shahdol, Sidhi and Surguja districts ; 3.56 Chhattisgarh area covering 4 districts of Mahanadi basin and 3.57 Dandakaranya area coinciding with Bastar district of Madhya Pradesh.

3.6 Orissa Hills and Plateaus : This Sub-region follows the easterly course of the Central Hills and Plateaus beyond Eastern Madhya Pradesh and consists of 2 divisions—3.61 North-Western Hills covering 5 districts to the south of river Mahanadi and 3.62 North-Eastern Hills embracing 5 districts north of Mahanadi river.

3.7 South Bihar Hills and Plateaus : This Sub-region has got 3 divisions—3.71 Chotanagpur Plateau covering Palamau, Hazaribagh, Ranchi and Singhbhum districts of Bihar ; 3.72 Gondwana Trough coinciding with the district of Dhanbad which is drained by the river Damodar and 3.73 Rajmahal Hills coinciding with Santal Parganas district of Bihar.

3.8 West Bengal Uplands : West Bengal Uplands has 2 divisions—3.81 Ranchi Peneplains coincides with Purulia district surrounded by Baghmundi Hills in the West, Jaridih hills in the north-west, Panchet hill in the north-east and Manbazar hills in the south-west and 3.82 Rarh comprising Birbhum, Bankura and Burdwan districts. Burdwan district is drained mainly by the Ajoy and Damodar System while Bankura district is drained by the Dwarakeshar and Kasai rivers.

4. Deccan :

In the Deccan has been included a huge tract of land between Central Hills and Plateaus in the north, Eastern coastal plains in the east and Western coastal plains in the west. The Deccan has been divided into 4 Sub-regions—4.1 Maharashtra Deccan ; 4.2 Andhra Deccan ; 4.3 Mysore Deccan and 4.4 Tamilnad Hills and Uplands.

4.1 Maharashtra Deccan : This Sub-region has got 6 divisions—4.11 Khandesh covering Dhulia and Jalgaon districts ; 4.12 Nasik basin coinciding with Nasik district ; 4.13 Vidarbha corresponding to 4 districts of old Berar ; 4.14 Mahakoshal embracing 4 districts of Nagpur Maidan ; 4.15 Marathwada covering 5 districts in the south and 4.16 Western Ghats (Desh) covering 6 districts of Maharashtra in the west.

4.2 Andhra Deccan : This Sub-region has got 2 divisions—4.21 Telengana (Southern Deccan) covering 9 northern districts of Andhra Pradesh and 4.22 Rayalaseema covering 4 southern districts of Andhra Pradesh.

4.3 Mysore Deccan : This has been further divided into 5 divisions—4.31 Inland Karnataka covering Belgaum and Dharwar districts ; 4.32 Southern Deccan Plateau (North Maidan) embracing Bidar, Gulbarga and Bijapur districts ; 4.33 Raichur-Bellary (Central Maidan) covering Raichur and Bellary districts ; 4.34 South Maidan covering 5 southern districts of Mysore and 4.35 Malnad covering 5 districts of Mysore.

4.4 Tamilnad Hills and Uplands : This Sub-region consists of 2 divisions—4.41 Nilgiri comprising Nilgiri district of Madras and 4.42 Coimbatore Plateau (Kongunad) covering 4 districts of Madras.

5. The West Coast Plains :

This Region consists of the entire coastal shelf on the Arabian Sea and has been divided into 5 Sub-regions—5.1 Kutch and Kathiawar ; 5.2 Gujarat Plain and Dangs ; 5.3 Konkan Coastal Lowland ; 5.4 Konkan Kerala Transition ; 5.4-A Goa and 5.5 Kerala Coastal Plains—Western and Southern Ghats (South Sahyadri).

5.1 Kutch and Kathiawar : This Sub-region has 3 divisions—5.11 Kutch area covering the entire Kutch district ; 5.12 Kanthadesh covering Banaskantha and Sabarkantha districts along the border of Rajasthan ; 5.13 Kathiawar covering 7 districts of Gujarat and 5.13A Diu covering Diu district of the Union Territory of Goa, Daman and Diu.

5.2 Gujarat Plain and Dangs : It is sub-divided into 2 divisions—5.21 Gujarat Plain covering 6 districts of Gujarat ; 5.21-A Daman district of the Union Territory of Goa, Daman and Diu and 5.22 Dangs covering Dangs district of Gujarat.

5.3 Konkan Coastal Lowland : Konkan coastal lowland is a long strip of land stretching from Thana district of Maharashtra to Goa. This area is much broken by hills which are frequently high and massive. This Sub-region is divided into 3 divisions—5.31 North Konkan covering only Thana district of Maharashtra ; 5.31-A Dadra and Nagar Haveli ; 5.32 Ulhas Basin coinciding with Greater Bombay district of Maharashtra and 5.33 Kolaba-Ratnagiri covering the districts of Kolaba and Ratnagiri of Maharashtra.

5.4 Konkan Kerala Transition : This Sub-region consists of 2 divisions—5.41 Coastal Karnataka embracing North Kanara and South Kanara districts of Mysore and 5.4-A Goa area of the Union Territory of Goa, Daman and Diu.

5.5 Kerala Coastal Plains : This sub-region consists of 2 divisions—5.51 Malabar consisting of Cannanore, Kozhikode and Palghat districts ; 5.51-A Mahe and 5.52 Kerala Coastal Plain covering 6 districts of Kerala starting from Trichur to Trivandrum district.

6. The East Coast Plains :

The East coast plains have been divided into 3 Sub-regions—The first is Tamilnad Coastal Plain (6.1) ; the second Andhra Coast (6.2) and the third is Orissa Coast (6.3).

6.1 Tamilnad Coastal Plain : This Sub-region is divided into 3 divisions—6.11 Nagercoil Valley coinciding with Kanyakumari district ; 6.12 Dry South-East covering Ramanathapuram and Tirunelveli districts and 6.13 Coromandel Coast embracing 5 districts of Madras and Pondicherry and Karaikal areas.

6.2 Andhra Coast : Andhra Coast consists of Andhra Coastal Plain (6.21)—7 districts of Andhra Pradesh stretching from Srikakulam to Nellore district and 6.21-A Yanam.

6.3 Orissa Coast : This Sub-region has only one division, i.e., 6.31 Orissa Coastal Plain embracing Puri, Cuttack and Balasore districts of Orissa.

7. The Islands :

This Region consists of two groups of Islands—the Islands in the Arabian Sea in the West and the Islands in the Bay of Bengal in the East.

7.1 The Western Islands : These cover Laccadive, Minicoy and Amindivi Islands.

7.2 The Eastern Islands : These cover Andaman and Nicobar Islands.



SOCIO-CULTURAL DEMOGRAPHIC REGIONS, 1961

Purpose : This map attempts to depict the different socio-cultural regions of the country and their levels of socio-cultural advancement.

Method : Twelve selected indicators have been used to determine the synthetic index indicating the level of socio-cultural development. The indicators are :—

Urbanisation

1. Percentage of urban population to total population, 1961.

Castes and Tribes

2. Percentage of Scheduled Castes and Tribes to total Population, 1961.

Literacy

3. Literacy, 1961 (Percentage of literates to total population excluding age group 0—4).
4. Female literacy, 1961 (Percentage of female literates to total female population excluding age group 0—4).

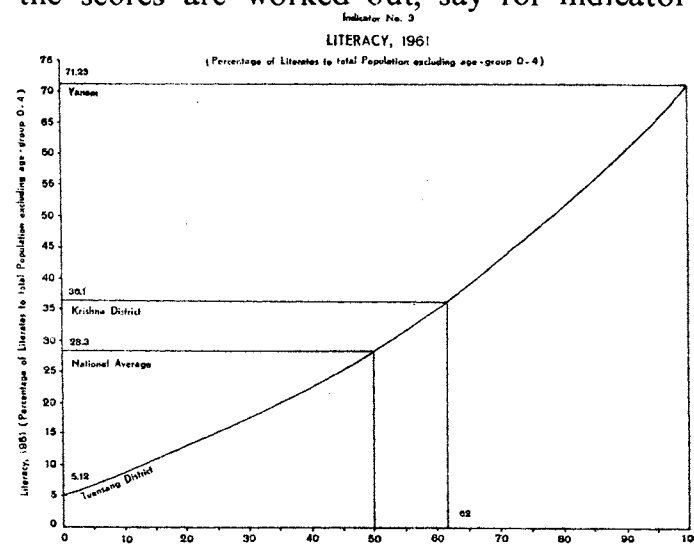
Education

5. Primary school enrolment of girls, 1961 (Number of school going children of age group 5—14 per 10,000 of female children of age group 5—14).
6. Post-Primary educational enrolment of population in age group 15—29, 1961 (Percentage of population in age group 15—29 at the level of secondary and higher education).
7. Number of teachers per 10,000 students at the primary level of education, 1961.
8. Number of teachers per 10,000 students at the secondary level of education, 1961.
9. Percentage of workers engaged in educational and scientific services to total workers in services, 1961.

Medical Facilities

10. Number of medical institutions per 10,000 Census houses, 1961.
11. Number of hospital beds per 100,000 of population, 1961.
12. Number of medical doctors per 100,000 of population, 1961.

After calculating data for all the twelve indicators, the districtwise score for each indicator is arrived at by a graphical method. For each indicator the score for the National Average is taken as 50. The lowest value among the districts is taken as 0 and the highest as 100 except in case of 'Castes and Tribes', where the score for the lowest value is taken as 100 and highest as 0 as a higher percentage of scheduled caste or scheduled tribe population will reflect the social backwardness of an area. On the basis of the three scores 0, 50 and 100 and their corresponding values in each indicator, graphs have been plotted with the former on the X axis and latter on the Y axis. A smooth curve is then drawn passing through the three points and with the help of this curve districtwise scores for each indicator are calculated. The following graph illustrates how the scores are worked out, say for indicator No 3—literacy, 1961.



The literacy percentage figures are shown on the Y axis and scores are

shown on the X axis. The minimum literacy rate is 5.12% (Tuensang district), National Average is 28.3% and maximum 71.23% (Yanam area of Pondicherry). These three percentage figures are then plotted in the graph against the scores 0, 50 and 100 respectively and a smooth curve is drawn. Now to arrive at the score of any district, say Krishna district of Andhra Pradesh, whose literacy rate is 36.1%, the score on the X axis is read from the graph against the literacy rate of 36.1% on the Y axis. Thus the score of Krishna district on the X axis comes to 62. Districtwise scores for all the indicators are then calculated and synthetic index for each district is calculated by adding the scores for all the twelve indicators. These figures are then shown in the map by choropleth method by grouping the data into six categories—two above, one nearer to and three below the National Average (600) as shown in the index to the map.

Salient Features :

Highest level of development (above 700)—This map reveals that there are only 37 districts in the country where the level of socio-cultural development is relatively very high. These are—8 districts of Kerala, 5 districts of Maharashtra, 4 districts each of West Bengal and Punjab, 3 districts each of Madras and Mysore, 2 districts each of Gujarat, Madhya Pradesh and Uttar Pradesh and one district each of Andhra Pradesh and the Union Territories of Delhi, Manipur and Andaman and Nicobar Islands.

In Maharashtra, West Bengal and Madras States, because of rapid progress of urbanization and high literacy rate the socio-cultural advancement is very high. In Kerala, high literacy rate and educational facilities contribute to the socio-cultural development. In Shillong Plateau area of Assam and the Union Territory of Manipur, though the level of urbanization is not high, the socio-cultural development is high because of the spread of education. In Andaman and Nicobar Islands, the synthetic index has been inflated due to low population.

High level of development (626—700)—Under this category there are 45 districts which are more numerous in lower Krishna-Godavari delta and South Madras Plain (4 each); Maharashtra (7); Gujarat (5); Punjab, Uttar Pradesh and West Bengal (3 each). In these areas also the socio-cultural development is significantly high because of large scale medical facilities and spread of education in the wake of rapid industrialization and urbanization.

Moderate to high level of development (551—625)—In all, there are 71 districts where the level of socio-cultural advancement is nearer to the National Average (600). These districts are mostly found in Mysore (9), Maharashtra, Assam and Punjab (7 each), Gujarat, Madhya Pradesh and Uttar Pradesh (6 each) and Andhra Pradesh (5). The remaining 18 districts are scattered.

Moderate level of development (476—550)—In all, 69 districts fall in this range. The largest number of districts under this range are in Uttar Pradesh (15) followed by Madhya Pradesh (9) and Bihar (7).

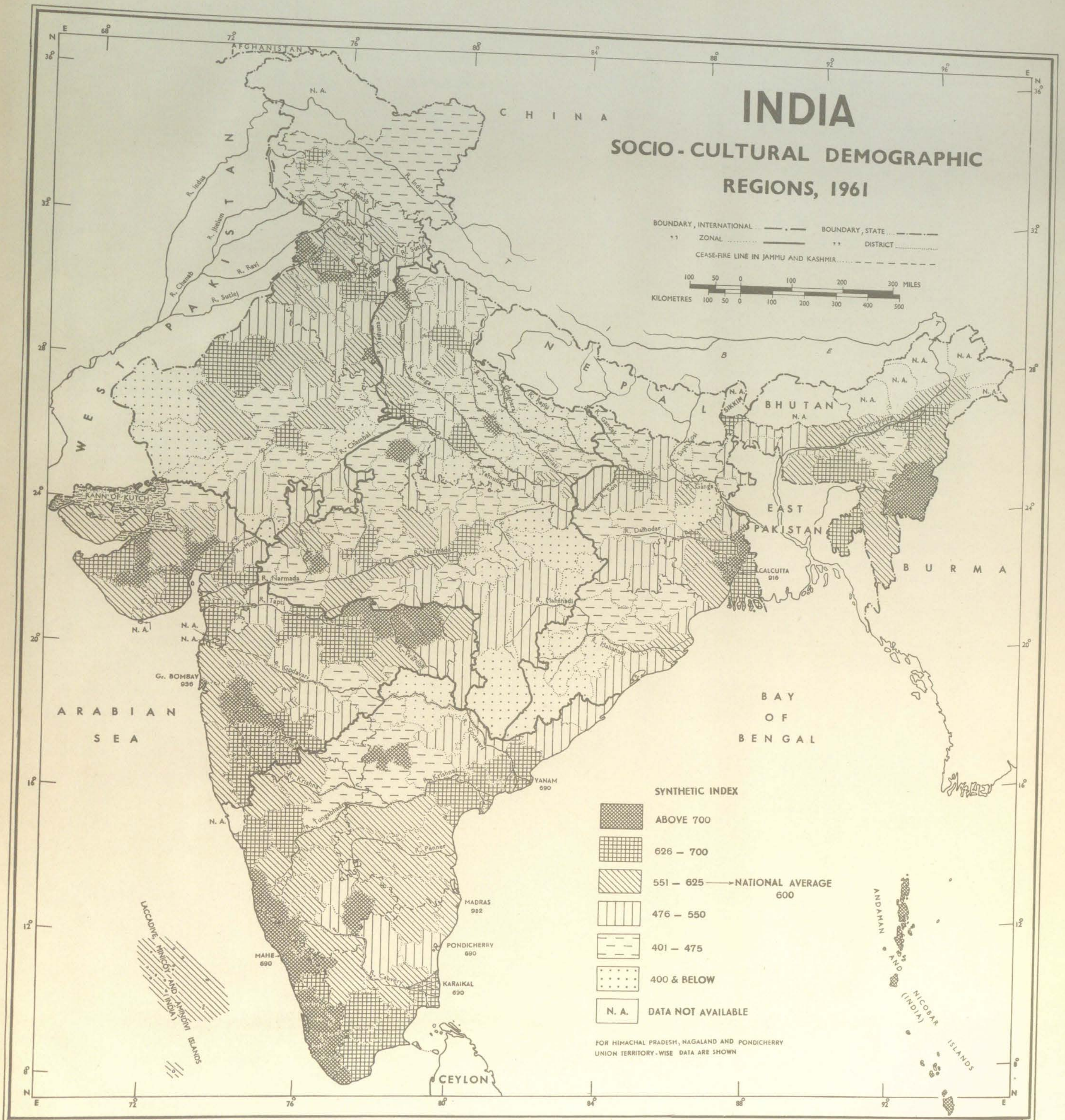
Low to moderate level of development (401—475)—The largest number of districts (79) are found under this category. Uttar Pradesh leads with 19 districts followed by Madhya Pradesh (18), Rajasthan (10) and Bihar and Jammu and Kashmir (7 each). In Uttar Pradesh, Madhya Pradesh and Rajasthan the level of socio-cultural development is low because of mostly agrarian type of economy with relatively low urbanization and industrialization. With slow progress of urbanization, the educational and medical facilities have also not improved significantly. All these factors have resulted in a significantly low socio-cultural development.

Low level of development (below 400)—Socio-cultural development is the lowest in 29 districts which are mainly in eastern Uttar Pradesh (9), Rajasthan and Madhya Pradesh (6 each) and Orissa (4). The remaining 4 districts are found in Andhra Pradesh, Bihar and Gujarat.

An analysis of the map reveals that socio-cultural advancement has taken place to a greater degree in Southern India, Eastern India including Eastern Hills and Plateaus than in other regions. Except in Punjab and the Union Territory of Delhi, Northern and Central India generally show a slow progress of socio-cultural development.

INDIA

SOCIO-CULTURAL DEMOGRAPHIC REGIONS, 1961



ECONOMIC DEMOGRAPHIC REGIONS, 1961

Purpose : This map attempts to depict the different economic demographic regions of the country and their level of economic development.

Method : Twelve selected indicators have been used to determine the synthetic index indicating the level of economic development. The indicators are :—

Urbanisation

1. Percentage of urban population to total population, 1961.
2. Percentage of population living in towns with population above 50,000, 1961.

Agricultural Development

3. Gross value of agricultural output per cultivating household, 1961.
4. Per capita supply of staple food crops, 1961.

Industrial Development

5. Proportion of Industrial workers in Mining and Quarrying, Household Industry and Manufacturing to total working population, 1961.
6. Proportion of workers engaged in factory industries to total industrial workers, 1961.

Trade and Commerce

7. Percentage of workers engaged in Trade and Commerce, 1961.

Agricultural holding

8. Agricultural holding per cultivating household in rural areas, 1961.

Employment position

9. Proportion of workers to total employable population of age group 15—59, 1961.

Housing Conditions

10. Percentage of households occupying three rooms and more to total households, 1961.

Transport and Communications

11. Density of Railways, 1961 (Kilometres of Railways per 10,000 sq. kms. of area).
12. Percentage of workers in construction, transport, storage and communications to total workers, 1961.

After calculating the data for all the above mentioned twelve indicators, districtwise scores for each indicator are calculated by a graphical method similar to that explained in Map 190. Districtwise synthetic index is then

shown in the map by choropleth method by grouping the data into six categories—two above, one nearer to and three below the National Average (600) as shown in the index to the map.

Salient Features :

Highest level of development (701 and above)—The map reveals that there are only 18 districts in the country where the economic development is relatively very high. These are the 6 districts of Punjab (Amritsar, Jullundur, Ludhiana, Bhatinda, Patiala and Ambala); Lucknow, Kanpur and Agra districts of Uttar Pradesh; Ujjain, Indore and Gwalior districts of Madhya Pradesh; Ahmedabad and Jamnagar districts of Gujarat; Ganganagar district of Rajasthan; Nagpur district of Maharashtra; Hyderabad district of Andhra Pradesh and the Union Territory of Delhi. In 6 districts of Punjab and in Ganganagar district of Rajasthan, the level of economic development is very high because of irrigation and mechanized farming while in Uttar Pradesh, industrial development and transport and communication facilities have resulted in a very high economic development. It is worth noticing that the entire southern and eastern parts of the country do not figure in this range at all.

High level of development (626—700)—Under this category there are 47 districts which are found in the northern and north-western parts of the country. Uttar Pradesh leads with 12 such districts followed by Punjab (7), Madhya Pradesh and Rajasthan (5 each) and Maharashtra and Gujarat (4 each). The remaining districts are scattered.

Moderate to high level of development (551—625)—There are 83 districts where the level of economic development falls in this range. Among these, Maharashtra records the maximum number of districts (11) followed by Uttar Pradesh (10); Madhya Pradesh and Mysore (7 each); Rajasthan, Kerala, Andhra Pradesh, and Madras (6 each) and Bihar and Gujarat (5 each). The remaining 14 districts are scattered.

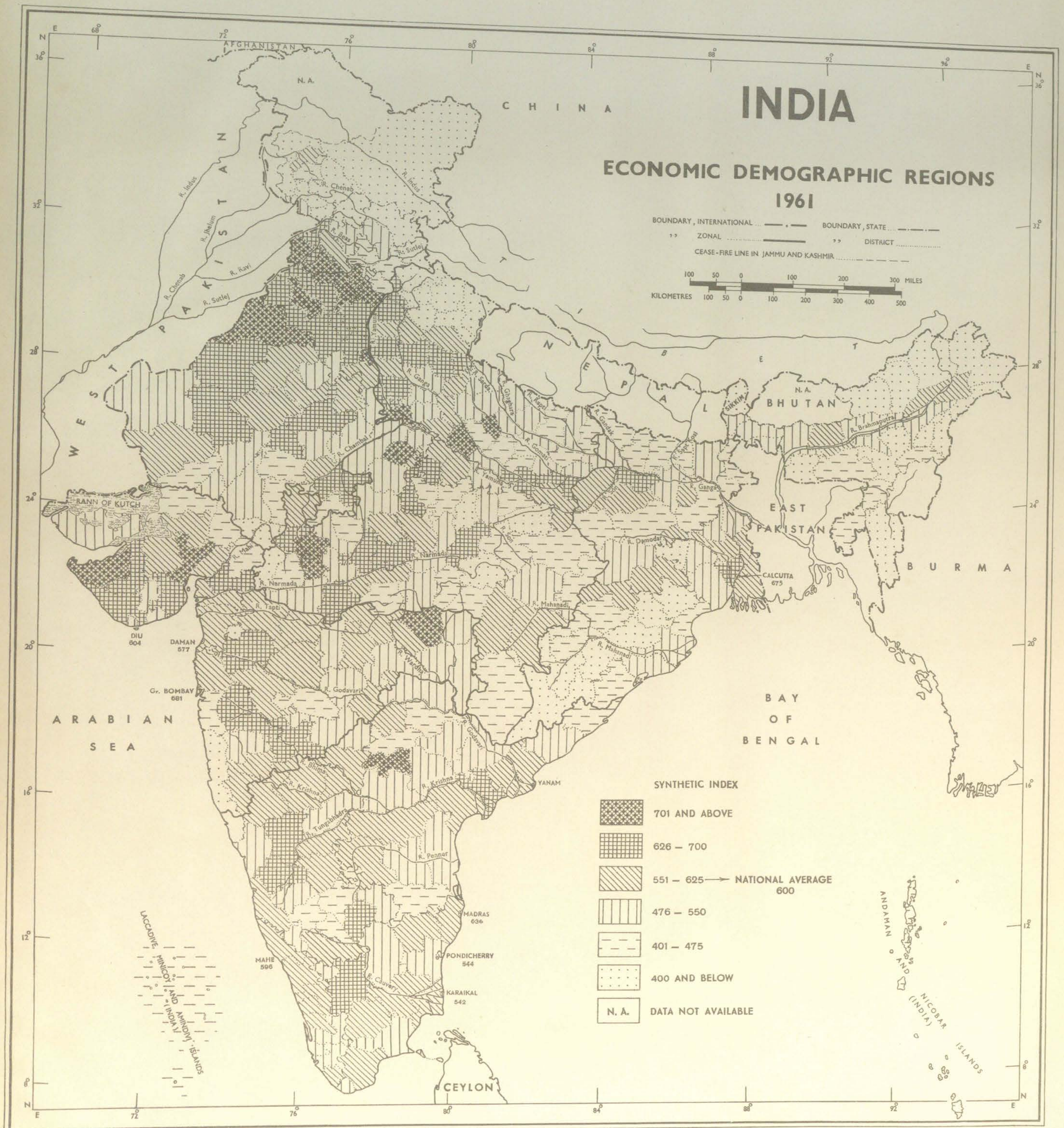
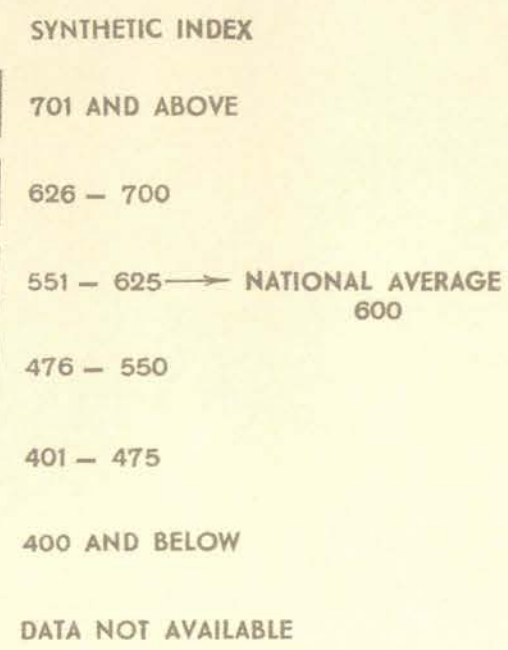
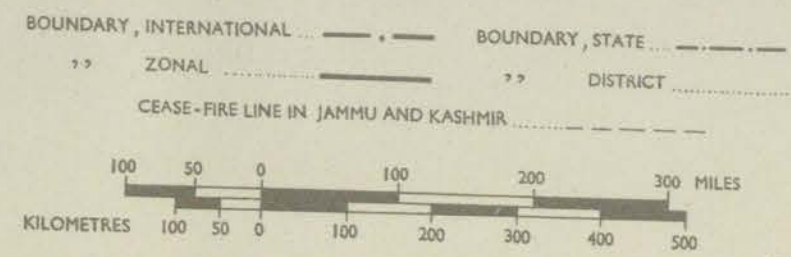
Moderate level of development (476—550)—Maximum number of districts (91 districts) fall in this range. Here again, Uttar Pradesh leads with (16) followed by Madhya Pradesh (12), Rajasthan and Andhra Pradesh (8 each), Maharashtra and West Bengal (7 each) and Mysore (6). The remaining districts are scattered in distribution.

Low to moderate level of development (401—475)—Under this category there are 59 districts. Madhya Pradesh has the largest number of districts (12) followed by Bihar and Uttar Pradesh (7 each).

Low level of development (400 & below)—In 38 districts of the country, the level of economic development is low. These districts are mostly in Kashmir Himalayas, Punjab Himalayas and Kumaun Himalayas; Orissa Hills and Plateaus; Garo Hills, United Mikir and North Cachar Hills and Mizo Hills districts of Assam and the Union Territories of N.E.F.A., Nagaland and Dadra and Nagar Haveli. Besides these areas, there are a few districts in Gujarat, Madhya Pradesh, Maharashtra and Rajasthan which also fall in this range. In all these areas, the progress of urbanization is very slow and factory industries are almost absent. The transport and communication facilities have not developed due to rugged topography and inhospitable climate.

INDIA

ECONOMIC DEMOGRAPHIC REGIONS 1961



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